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ABSTRACT

This volume is about children's health, how good science teaching and scientific thinking can improve health, and how health education can contribute to scientific thinking. It is concerned with skills for life: skills which can save and improve lives; skills which go beyond the classroom and are used in daily life and which, when thoroughly learned, last for life. Some of these skills are scientific, and the many examples included show how scientific thinking need not be confined to the laboratory but should be applied in many different situations. The Child-to-Child approach focuses on the many ways that children can spread positive health-related ideas and practices: older children can help younger ones; children can help others of the same age; and children can pass on health messages and take health action in their families and communities. The themes found in this guide include: health is a very important part of every child's education, and learning to live healthy enables people to live happily and study better; health is everyone's concern; prevention is the best way to remain healthy; there are important signs of illness that children can learn to recognize; health means being well in mind as well as in body; and good health is based upon sound knowledge about health. The volume includes sections on: the Child-to-Child approach; good science teaching and learning; evaluation; and books on science and health education. Activity sheets are included on child growth and development, nutrition, personal and community hygiene, safety, and disease prevention and cure. (IAH)

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CHILDREN, HEALTH AND SCIENCE

Child-to-Child Activities and Science and Technology Teaching

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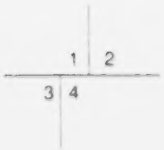

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Children, Health and Science

Document Series No. 41

Science and Technology Education
Document Series No. 41

CHILDREN, HEALTH AND SCIENCE

Child-to-Child Activities and Science and Technology Teaching

Edited by
Hugh Hawes, John Nicholson,
Grazyna Bonati

Section of Science and Technology Education

ED-91/WS/38

UNESCO

Paris, 1991

Preface

This document series was initiated as part of Unesco's Programme on Teaching of Science and Technology to encourage an international exchange of ideas and information on science and technology education. This is further intended to develop greater awareness and better understanding of the nature of science and technology and their role in a changing society by improving and extending their teaching to in- and out-of-school education.

The present volume is about children's health, how good science teaching and scientific thinking can improve health and how health education can contribute to scientific thinking. It is concerned with skills for life: skills which can save and improve lives; skills which go out of the classroom and are used in daily life and which, when thoroughly learnt, last for life. Some of these skills are scientific and the many examples show how scientific thinking need not be confined to the laboratory but should be applied in many different situations.

The Child-to-Child Activity Sheets included in this book have been produced through the international co-operation of many world-wide experts in education and health. The sheets have been tested in the field over many years and revised and updated as a result. They are now used in over 70 countries and have been adapted and translated for local use.

The editors of this volume, produced under contract with Unesco, are Hugh Hawes, the Director and one of the founders of Child-to-Child, John Nicholson, Coordinator of the Programme for Public Understanding of Science at the University of East Anglia and Grazyna Bonati, Programme Officer of Child-to-Child. The views and opinions expressed in this study are those of the authors and not necessarily those of Unesco.

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SECTION I

CHILDREN, HEALTH AND SCIENCE

Approaches to Teaching and Learning

I. INTRODUCTION

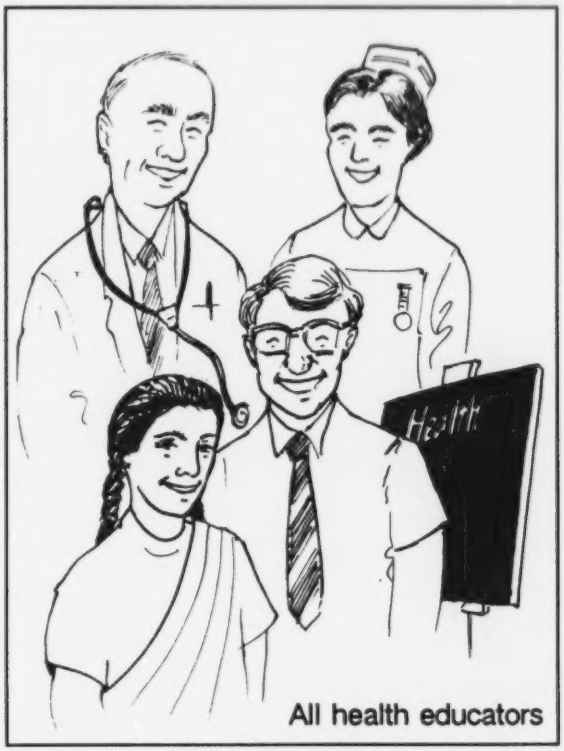
This book is designed as a resource for those who teach and plan the teaching of science for children and youth round the world. It does not concentrate mainly on classroom lessons and blackboards, books and apparatus. It talks of health in homes and communities, of children teaching other children to prevent ill-health, of children helping families and of families helping children. It takes, therefore, a wide view of what we mean by both education and science, a view which Unesco has always held and promoted.

Education involves helping others learn, and there are many helpers and many paths to learning. Science involves developing ways of thinking and reasoning and looking at the world clearly. It also involves applying our learning to solve problems that matter in our lives.

When we teach health education effectively we are encouraging learners to look after their own lives better and to apply their knowledge and skills to others. Much of this knowledge and skills is **scientific**; how we grow, how our body works, how we can protect it, how it protects us, how diseases spread, how they can be prevented.

Doctors, nurses, teachers and community members are all health educators. They all need such knowledge and skills and, once they have acquired them, they then have a duty to apply them and pass them on to others. In this book we concentrate on one group of health educators, **the children themselves**.

This introduction starts with those **children** and with the **Child-to-Child approaches** they can use to pass on their knowledge and skills. Next we look at what we mean by science and why the health education activities described in this book are so important in helping children think scientifically. In the last part, we look at how



All health educators

we as teachers and how the children themselves can evaluate whether they have understood the knowledge they have gained, whether they have passed it on to others and whether their actions have made a difference either to those whom they are trying to help, or, more important still, to themselves as learners and as people.

II. CHILD-TO-CHILD

The Child-to-Child approach

The ideas in this book present and develop the **Child-to-Child approach** to health education.

The first Child-to-Child programme started at the University of London. Here teachers and doctors from the Institutes of Child Health and Education, working with colleagues from all over the world, developed many of the ideas and activities included in this book.

The Child-to-Child approach has now spread all over the world and wherever it is found we will also find the same partnership of health and education workers developing the same central ideas.

These are the ideas:

- Health is a very important part of every child's education. Unless we learn to be healthy we cannot live happily or study well.
- Health is everyone's concern - not just that of doctors and other health workers. Children have just as much responsibility as adults to keep themselves healthy and to help others become healthy and stay healthy.
- The most important way of remaining healthy is to prevent illness from taking place. But even when children and adults are ill there are simple things which all of us can do to help them get better.

  There are also important **signs** of illness which we can learn to recognise. In this way we may be able to get help quickly so that it is easier to treat sickness.
- **Health** does not only mean being well in body. It also means having a bright and active mind and a happy, healthy life. Children can also help themselves and others towards this kind of health.
- Good health is based upon sound knowledge about health. Unless we **know** and **understand** the really important facts, ideas and skills necessary for good health we cannot spread our ideas properly.

How can children spread health ideas and practices?

There are many different ways in which children can spread health ideas and teach others good health practices:

Older children can help younger ones

They can: care for them;
teach them;
show them a good example.

Children can help others of the same age

- Children learn from each other by doing things together.
- Children who have been to school can help others who have not had the chance to do so.

Children can pass on health messages and take health action in their families and communities

- Sometimes they can spread knowledge they have learned in school. (e.g. Mary learns about the importance of immunisation. Mother takes baby to be immunised.)
- Sometimes they teach by example. (e.g. John makes a new toy for baby. Grandmother helps baby play with it.)
- Sometimes they can work together to spread ideas and take action in the community. (e.g. The health scouts make a fence round the well ... and hold a party afterwards.)

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What's old about Child-to-Child and what's new?

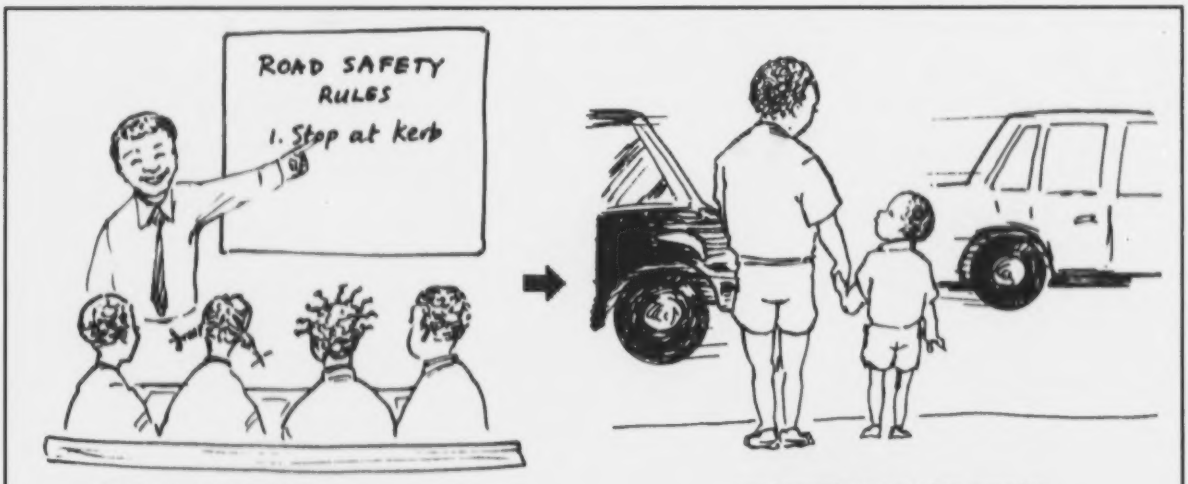
Some people say that Child-to-Child is part of the traditional way in which families helped each other. This is true and very important. But Child-to-Child activities go beyond the traditions of the past:

- They give children **new knowledge and skills** and a better understanding of what they are doing. They also make learning more interesting and more fun.
- They give a **new look** to health education in school. Instead of teaching children health **facts** about their **own health**, they encourage them to take **health action** for **themselves and others**. This links school learning with home and community needs and helps children learn to grow up into responsible adults.
- Because they encourage children to work **together** for the good of others, they develop their self-respect and sense of worth. This also encourages adults to value and trust children more.

Child-to-Child as an approach to learning and teaching

Once we accept the Child-to-Child approach to health education in schools we find that it has important effects on the way we teach and learn because:

- Child-to-Child approaches link what **we learn now** with **what we do now.**
- Child-to-Child approaches link what we do **in class** with what we do **out of class** and **at home.**
- Child-to-Child approaches cannot be learnt in one lesson and forgotten ... they are learnt and developed over a longer time and we continue to apply them for the rest of our lives.



Things learnt at school ... ... are immediately put into practice

For this reason most Child-to-Child activities in health need to be introduced in a series of steps:

STEP 1
Choosing the right health idea
Understanding it well

So we must choose activities which are:

- important
- do-able by children
- fun to do

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Once we select the topic we must understand it properly. In each sheet there is an IDEA which is very clearly stated. Make sure this idea is understood.

THE IDEA

Every living thing needs water to live, but dirty water can make us ill. We must be careful to keep water clean and safe: where it is found; when we carry it home; and when we store it and use it.

Ways of developing better understanding include:

- Practical activities to reinforce the ideas, e.g.:
  - measuring arm circumference;
  - using the 'Road to Health' chart;
  - mixing a rehydration drink.
- Role-play, drama and games to understand how people feel and react, e.g.:
  - plays to illustrate people's attitudes to immunisation;
  - games to understand what it is like to be blind;
  - role-play to explore how to say 'No' to people who offer cigarettes or drugs.
- Making up and telling stories to relate health problems to real life, e.g.:
  - imaginative stories: 'my life as a fly';
  - problem-posing stories: 'preventing accidents';
  - what happened next? stories.
- Making and using pictures to develop understanding, e.g.:
  - discussion based on a picture of malnutrition;
  - creating a comic strip on washing hands;
  - role-play based on a picture of bottle-feeding.

STEP 2
Finding out more

In every case a health problem and the activities linked with it have to be seen **in the light of local needs.**

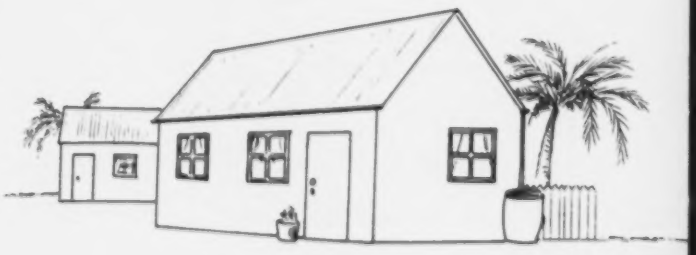
- There will be **local** examples of the problem.
- There will be **local** variations, **local** names, **local** practices.
- There will be **local** beliefs.

We need to find out about them.

Finding-out activities can include:

- Finding-out among ourselves, e.g.:
  - how many babies and young children in our families had accidents in the last three months?
  - what kinds?
- Finding-out at home, e.g.:
  - in what ways do we prevent accidents?
  - what dangers are still present to young children?
- Finding-out in the community, e.g.:
  - where do flies breed?
  - how many people recognise the danger signs of pneumonia?

Is this situation the same as ...



... this one?

STEP 3
Discussing what we have found out

This involves deepening our knowledge as a result of the new information we have obtained. The same **understanding activities** listed above can be used.

STEP 4
Planning action

Children need to discuss and plan what action they can take either **individually**, when they go out of the classroom and back into their homes, or **together**, when they are able to support each other and so, possibly, achieve even more. Often children will need to be helped in what they do. Planning activities thus include:

- Discussing (in groups) possible action (role-play can help);
- Choosing the best course of action;
- Drawing up an action plan:

  WHAT can we do?
  WHEN can we do it?
  WHO can do what?
  HOW can we start?
  WHO can help us?

(Children's action is most useful if others can be asked to help, e.g. families, teachers, health workers.)

STEP 5
Taking action

This may be **in school** (particularly in matters of hygiene and safety) or, more frequently, **at home or in the community.**

These **doing** activities include:

- Practical activities at home, e.g. covering food; new games to play with the baby.
- Sharing new ideas and messages with the family, e.g. what I learnt about immunisation.
- Activities in the community, including **helping activities**, e.g. protecting water supplies, spreading messages through campaigns, drama, health songs, etc.
- Myself, my home, my school as a **good example** for others.

STEP 6
Discussing results

After action has been taken, children must come back and discuss what has happened.

- How were their ideas and activities received?
- Who listened .. and who didn't?
- Who took action?
- What were the results?
- Should we try again?
- How can we do better next time?
- How can we make the new practice an everyday habit?

These simple evaluation activities will be discussed a little later in Chapter IV.

Working together using the Child-to-Child approach

This book concentrates mainly on action in the classroom by teachers in periods labelled **science** or **health science**. But the Child-to-Child approach is not confined to the classroom and is not the responsibility of just one teacher.

In fact teamwork is necessary if the approach is to be successful: teamwork **within the school** and teamwork involving **school and community**.

Where Child-to-Child approaches have been successfully used there has always been such teamwork. Here are a few approaches which have worked well in many countries.

1. Health objectives which everyone agrees

Sometimes a whole school or, better still, a whole community can agree on a list of **the most important, local health objectives,** including the health messages (facts, skills and attitudes) that ... **'every child should know and has a responsibility to pass on'.**

The UNICEF/Unesco/WHO book, **Facts for Life,** lists such messages. Many are contained in the activity sheets in this book. If everyone knows these priorities, then there will be complete agreement that they should form part of children's learning, and children will receive encouragement and support to pass them on.

2. School health plans

Sometimes a school can agree an action plan to help everyone receive and understand such messages. Staff, parents and even children can list those that they think are most vital for children to know and do.

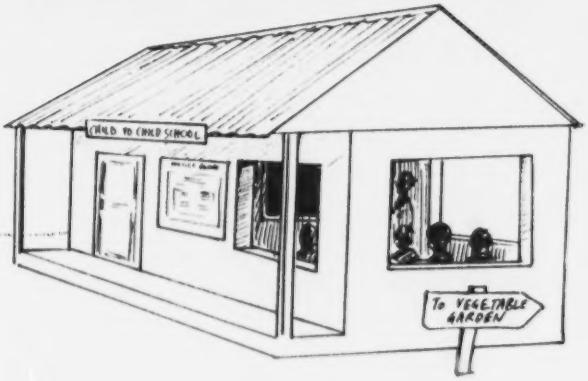
OUR SCHOOL HEALTH PRIORITIES

PROBLEMS	WHAT WE CAN DO
Much malaria in wet season	Fill in water puddles, find and kill mosquito larvae
Stomach upsets in children Deaths in babies from dehydration	Keep Latrines clean Learn to make special drinks

They can then plan how they will help to achieve them:

- through health teaching;
- through reinforcing the ideas in other subjects;
- through action to make the school a good example;
- through community activities organised by the school.

They can then decide how to check to what extent these plans are being followed and what results are being achieved.



3. A Child-to-Child school

Sometimes whole schools can become a living example of Child-to-Child in action. Staff and children agree a set of rules to live by:

- "In a Child-to-Child school, we should all know ..."
- "In a Child-to-Child school, we practise ..."
- "In a Child-to-Child school, we spread these ideas ..."

Child-to-Child schools nearly always set up a Health Committee (of children, teachers and community members) to plan and organise activities. Children are usually **paired,** with an older child responsible for a younger one.

Finally there is nearly always one or more action groups such as health clubs or health scout groups who take action in the community. In the best Child-to-Child schools both children and teachers are extremely proud of what they are and what they are achieving.

Back to the classroom

But all the activities described above must be based on sound knowledge and on active methods of learning and teaching, leading to real understanding. That is why this approach to science teaching is so important.

III. GOOD SCIENCE TEACHING ... AND GOOD SCIENCE LEARNING

In this section, we will look at some important questions for teachers.

We will also examine some of the problems teachers face:

- safe working;
- examinations;
- time;
- apparatus;
- using the sheets.

We will not provide all the answers in this short space. However, our ideas are tried and tested. They can be used by all teachers to help pupils become useful people in their community.

What is science?

There is no simple answer to this short question. We can start by looking at what scientists do:

- Scientists ask questions.
- Scientists wonder why.
- Scientists suggest answers.
- Scientists find answers.

They find answers in different ways. They **investigate.**

- Scientists compare things.
- Scientists measure.
- Scientists make predictions.
- Scientists test predictions.

However, most people do all this. So do children. What makes a scientist different?

There are two parts to the answer:

1. **What they ask questions about.**
2. **The methods they use to answer the questions.**

What is science?

How can science education help health education?

How can health education help children learn science?

What is good learning in science?

What is good learning in health?

Questions scientists have asked ... and answered

How can we cure malaria?

What causes malaria?

What will happen if we use insecticides like DDT to kill mosquitoes?

What causes diarrhoea?

Why do babies die from diarrhoea?

How can we make water safe to drink?

Questions which have not been answered ... yet

How can we cure people who have AIDS?

Why do cigarettes cause lung cancer?

What scientists find out about

Scientists find out about:

- Living things, e.g. animals, plants, us ... this is biology.
- What substances are made of, and how to make them ... this is chemistry.
- Energy and its effect on materials, e.g. heating water ... this is physics.

Science, sunlight and a bottle of water

Physics questions

What energy comes from the sun?

Can sunlight get into the bottle?

Will it heat the water?

Chemistry questions

Will sunlight change the bottle?

Does the bottle change the water?

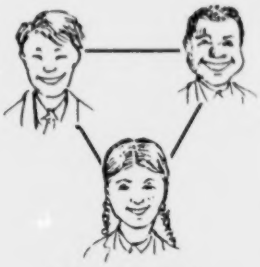
Scientists need to work together

Biology questions

Are there living things in the water?

Are they dangerous?

Can sunlight kill them?

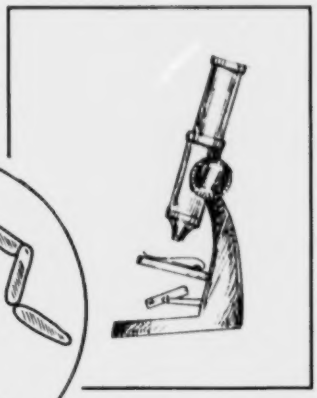


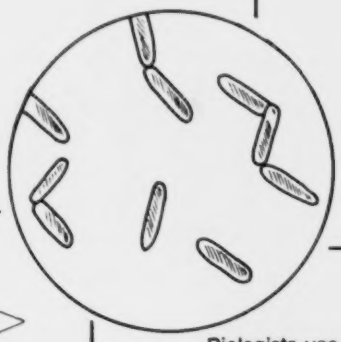
Scientists need to communicate

All the sciences can help us to live better lives.
They can help us understand:

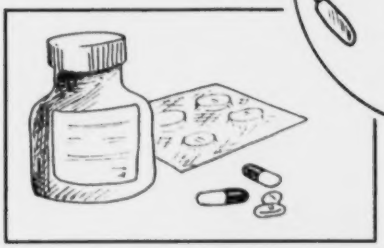
- what causes disease;
- why we must keep clean;
- how diseases spread;
- what to eat and how much;
- how to make drinking water safe;
- what might happen if we smoke.

Physics helped us design a microscope.





Biologists use a microscope to find bacteria in water.



Chemists make drugs which kill bacteria but do not harm us.

The methods scientists use to answer the questions they ask

We already know that scientists ask questions, for example:

- do cigarette smokers die at an earlier age than non-smokers?

Why should they ask questions at all?

Perhaps they have made observations, e.g. noticed that many old people do not smoke. Perhaps they have an idea that cigarette smoke might be dangerous because it contains tar. **This is a hypothesis.**

Scientists do more than observe and hypothesise. They test their ideas. They look for evidence.

- **Are my observations true?**
  - Is there any evidence that non-smokers live longer?
- **Is my hypothesis true?**
  - Can I test it? Can I investigate?
  - If I put cigarette tar onto the skin of an animal, will it get cancer?
  - If it does, is this evidence?

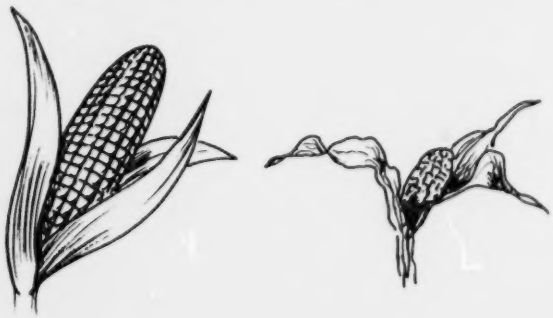
Scientists make predictions

If I spray crops with these chemicals, they will kill the insect pests and the crops will grow better.

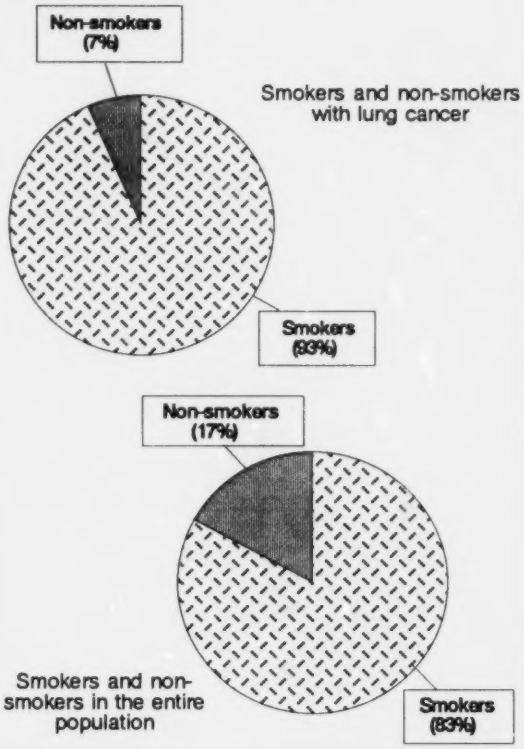
They may get results which show this is true, but other scientists may argue.

"The chemicals may kill the insect pests but they may also harm the soil so that in a few years the crops will not grow so well."

This is an example of another hypothesis.



Scientists need information. Then they need to examine it.



Is this evidence that cigarette smoking is dangerous?

Scientists do investigations to answer questions. They might:

observe

ask a question

hypothesise

predict

plan an investigation

do an investigation

make comparisons

get results and measurements

interpret the results

ask more questions

How can science education help health education?

Science is knowledge.
Knowledge can save lives.

For example, children can help each other stay healthy if they know certain facts:

- breast milk is the best food for new-born babies;
- healthy children gain weight. If children do not, they are ill;
- diarrhoea kills one child in every ten.

It helps if they understand scientific ideas:

- diarrhoea is caused by *bacteria* and *viruses* which make *toxins*;
- the body uses water to wash them out, but loses *dissolved* salts;
- a salt and sugar *solution* can save a child with diarrhoea;
- sugar helps the body *absorb* the salts it has lost.

It helps if they can apply scientific ideas - actually use them to save lives:

- *make* a measuring cup for salt and for sugar;
- *measure* salt and then sugar into a cup;
- *dissolve* the salt and sugar in cool boiled water;
- *give* the sweet and salty drink to the child with diarrhoea.

Science can help children know what to do and why.

Science is a way of thinking. This way of thinking can save lives.

For example, children can help each other stay healthy if they can:

- *observe* that a little sister is too hot;
- *infer* that she is ill and needs help;
- *predict* where mosquitoes might lay eggs.

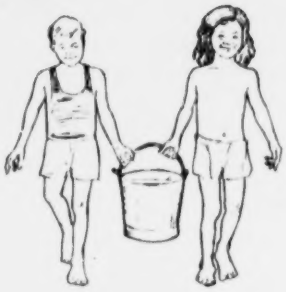
Children of today may become the scientists of tomorrow. They will need to know how to think and how to:

- *ask* what might cure AIDS;
- *investigate* ideas for a cure;
- *interpret* results that other scientists get;
- *communicate* with other scientists and other people.

How can health education help children learn science?

Children like to be useful.
They can help the family to:

- collect wood and water;
- keep things clean.



Children can help in family life.

Health education can make them much more useful. They can help the family to:

- save a baby with diarrhoea;
- understand immunisation.

Children can help keep a family alive.

Sometimes learning in science is not very useful, but:

- **Health education is very useful, to the healthy and the sick.**

Sometimes learning in science is not very relevant. It may include things which children have never experienced and will never experience, e.g. the uses of nitric acid, but:

- **Health education is relevant to children, their families and community.**

Sometimes learning in science is rather dull. Children may do little except listen to teachers, write down notes, and memorise information they only half understand. Now this can happen in any subject. It should not happen in science. Science learning should be active. Children should be thinking and doing.

- **Health education can help children think scientifically and do science.**

The sheets in this pack have many ideas for thinking and doing science. Some are in the special box on the front page of each sheet. However, there are many other ideas for doing science and thinking in scientific ways, as you will see.

Ideas for active science learning

Children do science when they

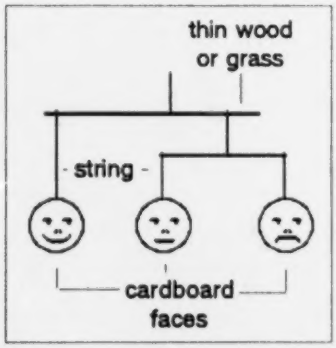
- **Observe .....** Look at and listen to a baby play with a mobile
- **Record .....** Keep a record of what they see and hear

Time	*What I saw*	*What I heard*
7.00	*Baby pointed at the smiley face*	*Baby laughed*

- **Infer .....** Conclude that babies like faces on a mobile

  and *because*

- **hypothesize .....** Babies have learned that faces mean fun, - but what else do **children** think?



What is good learning in science?

We can say that science learning is 'good', if pupils:

- are interested;
- can relate science to their lives;
- can understand ideas in science;
- can begin to think and behave like scientists;
- can communicate their knowledge and understanding of science;
- can apply science in their lives.

Science learning should be active, with children:

- **observing**
- **asking questions, wondering**
  ... how?
  ... why?
  ... What will happen if ... ?
- **suggesting answers**
  ... perhaps it is ...
  ... we think this is the reason ..
- **investigating**
  ... planning
  ... controlling variables
  ... comparing
  ... measuring
  ... recording
  ... inferring
- **cooperating**
  ... listening
  ... discussing
  ... considering other viewpoints
  ... working towards agreement
  ... looking after each other

What is good learning in health education?

We can say that health education is 'good', if children:

- become interested in health;
- can relate what they learn to their own lives;
- can understand basic ideas about health;
- can apply what they learn about keeping healthy;
- can help their families and friends live healthy lives.

Health learning should be active, with children:

- **observing themselves and their community**
  ... noticing what helps healthy living and what does not;
  ... looking for signs of sickness in the family;
  ... finding dangers in and around the home.
- **investigating**
  ... local problems, e.g. poor drinking water;
  ... comparing traditional customs with modern ones, e.g. feeding babies;
  ... measuring growth, e.g. height and weight;
  ... recording.
- **applying new skills**
  ... making safe toys for babies;
  ... finding out if a child is deaf.
- **cooperating**
  ... looking after each other;
  ... sharing new ideas.

Can you see how much science and health education can help each other?

What about apparatus?

In a perfect world, schools would have all the equipment they need to teach science.

In a perfect world, children would all be well-fed, free from sickness, cared for and loved.

The world is not perfect. We do what we can with what we have.

We do not have:

flasks

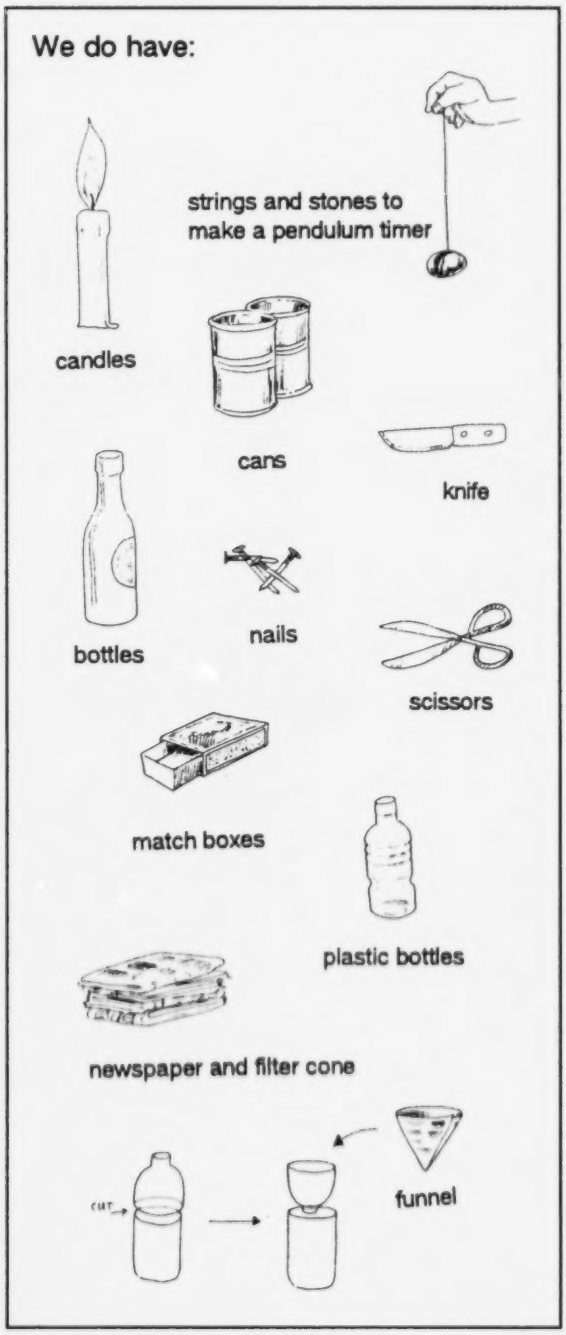
stop watches

bunsen burners

beakers

Do we need this equipment to teach science?

It helps, but children can still learn good science without it.



There are many ways to make simple equipment. You need:

- local tools;
- local materials;
- imagination;
- skill;
- time.

It is worth finding all of these to help your pupils help themselves.

Pupils can help you too. They also have imagination. They may have less skill but they probably have more time!

There are many good ideas for making cheap equipment. Some are shown on this page.

Many countries have science education associations which can help you.

Remember too that when they are learning health education, children will often be using everyday objects round the home and community. Very often we do not need special science equipment to help us learn scientifically.

All this is fine, but what about examinations?

There are many kinds of examinations around the world. They have different styles and different purposes, so it is difficult to give general advice.

We believe that examinations should find out what children are capable of:

- what they know;
- what they understand;
- what they can do.

Any examination will have some, if not all, of these. An active, practical approach to learning science can help children in each case. Furthermore, examinations and assessment round the world is changing. There is a move towards finding out what children can actually do, not only what they can remember.

Children **remember information** if:

- it is interesting;
- they know it helps them;
- they have been involved in finding out the information.

Children **forget** if:

- they only learn by rote;
- they cannot see the purpose of what they learn.

In the long-term, teachers help to produce adults who can learn together as they work.

The sooner they learn to work like this, the better!

... and what about safety?

This is really very important. **Health education should prevent accidents - not cause them.** Pupils need to learn how to behave safely when they do experiments and investigations. It is good health education in its own right.

Your pupils should:

- know what is dangerous and why it is dangerous;
- ask themselves "what might happen if..." questions, i.e. be able to imagine accidents before they happen;
- know how to act if something happens, e.g. cold water on burns;
- be responsible for other people as well as themselves.

What is dangerous and why?

- sharp edges can cut
  ... glass, knives, thin wire;
- flames can burn
  ... set fire to loose hair
  ... damage skin and eyes;
- some substances are poisonous
  ... weedkillers and insecticides
  ... solvents and fuels;
- some substances are inflammable
  ... kerosene, spirit
  ... petrol is explosive!
- hot water can
  ... break glass, soften plastic;
- pupils who misbehave and put other people at risk.

Science, Health and Child-to-Child

In these last pages we have shown that though many people still think of science and health as separate subjects they are really very closely linked. We all need to **think like scientists** when solving health problems and to make our lives better.

School teachers are not the only science teachers. Anyone is a teacher if they help others to solve health problems by thinking scientifically, by observing or predicting, by making simple hypotheses and testing them and by measuring results.

So children are teachers of other children, and even teachers in their own families and communities, because they are helping others to think more clearly about health.

But how can we find out if we are teaching well or badly? How can we find out the effects of that teaching? In the next section, therefore, we look at the **evaluation** of Child-to-Child activities.

IV. EVALUATION

(How well are we doing?)

What we are trying to do

The activities described in this book are designed with a number of objectives in mind:

KNOWING
DOING
THINKING
FEELING

First:
They are intended to help children acquire **new knowledge**, about things that **really matter to themselves, their families and communities**, and **real understanding** of that knowledge.

Second:
They are intended to help children learn **practical health skills** which they can **apply effectively** to their own lives and those of others.

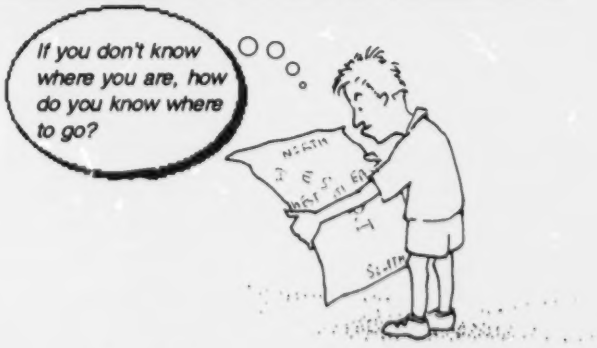
Third:
They are intended to help children develop abilities to **learn, think and solve problems about real-life issues which affect them.**

Fourth:
They are intended to help in the development in children of **attitudes** to living and learning which will make them **happier, healthier and more effective people.**

SPREADING THESE SKILLS, KNOWLEDGE, AND ATTITUDES
IN
SCHOOL AND COMMUNITY

We also intend that these activities will help children spread better knowledge, skills and attitudes within schools and communities, and that as a result of the changes in learning science and health, changes in other subjects may also follow.

Finding out where we are



Before discovering whether knowledge, skills and attitudes have changed it is important to find out what they were before the activity or project started. This has two advantages. It gives us a point to measure from and it helps

us decide what to teach and how. Here are three examples:

1. Before teaching about AIDS the teacher made a pre-test of knowledge. He discovered that all the children already knew that AIDS could be spread by sexual intercourse, but only half knew it could be spread by infected needles.

   He also discovered that more than half believed that shaking hands with AIDS patients was dangerous (which is quite false). He therefore replanned his lessons to emphasise the required knowledge.

2. Before starting a unit on pneumonia (which involves children learning to recognise a fast breathing rate of fifty breaths a minute) the teacher asked the children to estimate the length of a minute.

   She was amazed at the result. One child's 'minute' only lasted three seconds and more than half of the class estimated a 'minute' as less than 20 seconds. When she followed this up she discovered that only 60% of children could recognise a minute on a watch (though all of them had been getting sums about time correct).

3. Before teaching about diarrhoea the ten year old children were sent back home to ask how their parents treated it. More than half were told that a special medicine was used and that children with diarrhoea should not be allowed to drink. (This increases the risk of dehydration.) The same parents had told the health worker that they always used a sugar-salt solution. When the children made up a play, this information helped them.

Testing knowledge and understanding

What to test:

Essential knowledge

We need always to find out whether the main idea in each activity has been understood. If it has not, then it must be taught again ... and again. If children have wrong information about health and spread that information, they can do more harm that good.

Consider this little test which was given to children in Namibia.

> **Which is correct?**
>
> When a child has a burn you should ...
>
> a) Put dung on it.
> b) Put cold water on it quickly.
> c) Cover it immediately with a bandage.
> d) Put butter on it.

ONLY (b) is correct. If any child believes that any of the others are correct then they can do harm. Therefore we need to make sure that nearly all children in a class 'master' such knowledge. The same kind of 'mastery' is necessary when teaching **health skills** like mixing a rehydration drink or recognising the signs of dehydration.

Other important knowledge

In each activity sheet, there are many other important ideas to be understood, e.g.

- What are the different ways of playing with babies at different ages?
- What are the different kinds of foods in the 'food square?'

We cannot expect **all** children to know **all** these ideas, but we can expect **most** children to know and understand them. When we are questioning them on this knowledge we need to find ways of seeing whether they **really understand it.**

Here are three suggestions:

- Make them explain it to someone else:

- Give them a particular case and ask them what they would do, e.g. "Your sister's children always get malaria. What could you advise her to do so that they had fewer attacks?"
- Make a story or play to make the idea clear, e.g. "Our neighbour's child was malnourished ... how we helped".

Assessing improvement in ways of thinking and solving problems

This can also be done by classroom tests, but it requires skill to set them. Some techniques include:

- Present children with a series of actions or events in any order. Ask them to put these in the right order.
- Ask questions based on imaginary situations e.g. "What would you do if ... ?"
- Ask questions based on pictures.

A more reliable way, though longer, is by keeping good records based on observation of children and assessment of the work they do. There is need for a simple checklist of ways of learning and thinking that their activity is trying to develop and some way of commenting on these. A head or adviser can help keep these skills in mind when he visits classrooms or observes children planning and taking action in the school and community.

Health practice, habits and attitudes

Written tests to assess attitudes are not effective. We assess attitudes by observing what children say and do.

We need to make up a list of things to look for (we call them **indicators** which will tell us whether practice is changing. Here are a few examples of indicators:

- Attends a voluntary health club.
- Washes hands regularly before meals.
- Looks after a younger 'school brother' or 'sister' carefully.
- Talks about the action he has taken at home.

In some countries which have 'Child-to-Child schools', the children's health committees have drawn up a set of 'rules for health' in the school and monitor them themselves.

Spreading the ideas

How can we find out whether children have been spreading the ideas and how effective this has been?

- In some cases it may be possible to ask parents what their children have told them and what they have done or to ask them to observe and report how the school children helped at home (particularly their younger brothers and sisters).
- Sometimes parents and community leaders may be approached at open day, and occasionally, they too may give indicators (e.g. increased interest in health matters).

In some countries children, particularly those who enrol as 'health scouts', may be asked to keep a diary. This can be very revealing and the actions taken can be checked with other community members.

Just occasionally it may be possible to involve the health worker in collecting evidence 'before' and 'after' a certain Child-to-Child activity, but this is time-consuming and it may be extremely difficult to say that a particular effect (e.g. more immunisation) was entirely due to a particular cause (in this case, a Child-to-Child campaign).

Doing it better next time

One part of evaluating 'how well we are doing' is to measure the **results** of our effort. But it is also important to measure its **efficiency**.

We must ask ourselves:

- Have we introduced the new activities in the clearest and easiest way?
- Have we made best use of our key resources:

  MANPOWER; MONEY; TIME?

- Or could we have done it all more easily, more cheaply or quickly?

This leads to another question:

How could we do it better next time?

Here are just a few questions we may ask:

About Planning:

- Did we choose the most important activities to put in our programme?
- Did the teachers, the health workers and the community agree that they were the most important?
- Did we discuss and inform everyone (heads, teachers, health workers, community) about what the new approach was and why we were introducing it?
- Did they all agree to support it?
- Did we plan a programme that was realistic and manageable given the resources we had?
- Did we decide right at the beginning how we were going to monitor it?
- Did we keep the CHILDREN in mind all the time we were planning the programme?

About Doing the Programme:

- Did we keep checking to see that the right messages were getting across?
- Did we remember at all times that the programme was based on activity by children and for the community (It is very easy for a programme to slip back into old, dull, didactic ways)?
- Did we involve people at local level (and particularly the children themselves) in organising and monitoring the activities?
- Was the programme kept reasonably flexible to meet **local** needs and to make changes as a result of information gained from experience?

AT THE END OF EACH PART OF THE ACTIVITY

- Did we try to find out how much had been achieved and where difficulties and problems had been encountered?
- Did we discuss how to **'do it better'**?

V. USING THE SHEETS

About the Sheets

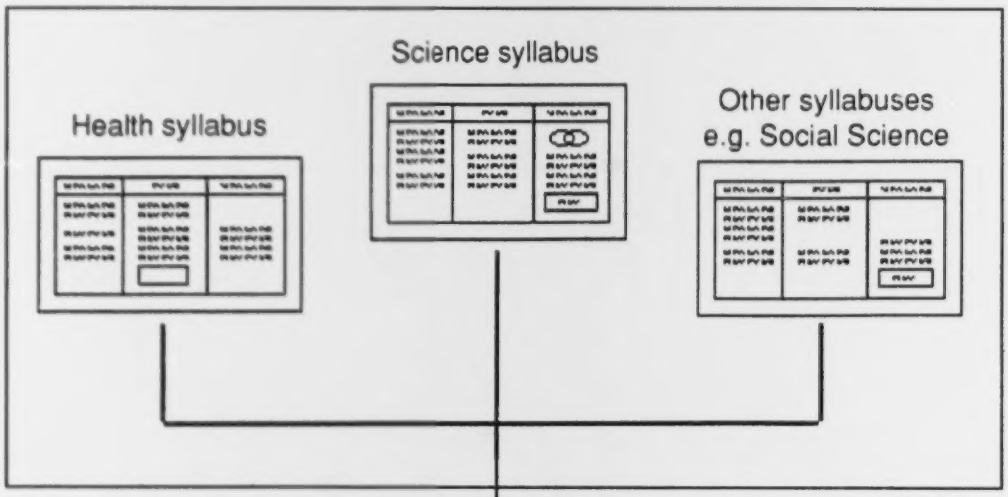
The rest of the book contains twenty-two sheets chosen from a larger collection of Child-to-Child activities. These sheets have been included because they:

- deal with very important health topics, and
- are particularly suited to science teaching.

In each of the sheets we have put in a special new box with extra information particularly important for science teaching.

Using the sheets to help you teach science

This diagram can help you plan your lessons. Try to let children do science rather than just hear about it.



Decide aims and objectives:
what must children know, understand and be able to do?

Find activities which will help them to learn facts,
understand ideas, and put them to use.

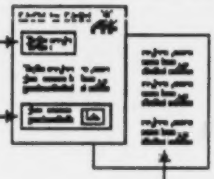
BEST COPY AVAILABLE

These may be in school textbooks or in your own mind.
Use the Child-to-Child sheets at this stage.

Read **The Idea** box

Read the **Children do science when....** box

Read the rest of the sheet. It may have many more things for your pupils to do



Plan the whole activity

- How long will the whole activity take?
- How much will take place in the classroom?
- How much will take place outside, in the school, home or community?
- How will the activity in the school, home and community be discussed and evaluated back in the classroom?

Apparatus and equipment

Plan the details of the classroom activity

What equipment or materials do you need? string? stones? bottles? clean water?

How can you organise your pupils?
- groups of six? pairs?
- whole class part of the time?

How will you keep activities safe?

What will you expect to see and hear if your pupils are learning effectively?

Plan the out-of-class activities and their follow-up

- What 'finding-out' activities will take place and who will take part?
- What 'doing' activities will take place:
  - by individual children at home?
  - by pairs or groups of children?
  - by the whole class?
- How will you try to find out how successful these Child-to-Child activities were?

SECTION II

THE ACTIVITY SHEETS

PLAYING WITH YOUNGER CHILDREN

THE IDEA

All babies and young children like to play. They can be helped to play better. Better play makes children grow and learn well. Better play helps children and parents to understand one another. Different ages need different kinds of games, and older children can help younger children to play better.

Children everywhere spend some time looking after younger brothers and sisters. They are often told what **not** to do when looking after the baby: **"Don't** let her near the fire!" **"Don't** let her hurt herself!" They are seldom told what they **can** do with the baby.

This sheet talks about **why** children need to play, **what kinds of play** are suitable for children at different ages, and **how children can help each other to play.**

Children Like to Play

All babies and young children like to play from an early age. Babies like to watch things moving, like the shadow of a tree against the sun. Later, they like to reach out to grab hair, or some pretty beads or a dish. When they can walk and run, they also like to hide, to jump, to skip and to twist around. As soon as they can understand and begin to talk, they like to play games using words: "Where's my nose?" or "Find the ball". We can encourage them to do all these things and even more. We can help them to play better and do many different kinds of things.

Children do science when they

- **Observe ...** Watch babies looking at the world around them, noticing what they enjoy. Look at young children playing together, what they like and what they don't.
- **Ask questions ...** What will babies do with a spoon or a ball? What does this tell you about safety? (Babies put things in their mouths.)

  and Can you make a rattle that is safe, clean and noisy?
- **Investigate ...** Find out what makes a baby laugh:
  - painted faces on a mask?
  - tickling their feet?
  - hiding behind a cloth, and then showing your face?
  - rattles made by older children?

  Find out what toddlers like to play with:
  - toys that they can push or pull?
  - toys they can make a noise with?

A puppet made from a paper bag over a hand.

Will it make a baby laugh?

What do you think? How can you find out?

Why Better Play?

Older children may ask, 'Don't all children play? Why do we need to learn about **better** play, about **different kinds of play?**'

- Better play makes the baby or young child more lively, using all parts of its mind and body together.
- Better play uses voice, eyes and hands. This helps the child and older people to understand one another and communicate better, which will help at school.
- Better play helps young ones to:
  - look at things around them;
  - try out new actions and activities;
  - make their own small experiments with their hands, their eyes, their voices.

  In this way, they are always learning new skills and finding out for themselves about new things, and thus to:
  - use their bodies well;
  - talk and use language better;
  - think and later solve problems;
  - use their imaginations.

As they get older, better play helps children to learn to share and cooperate with others.

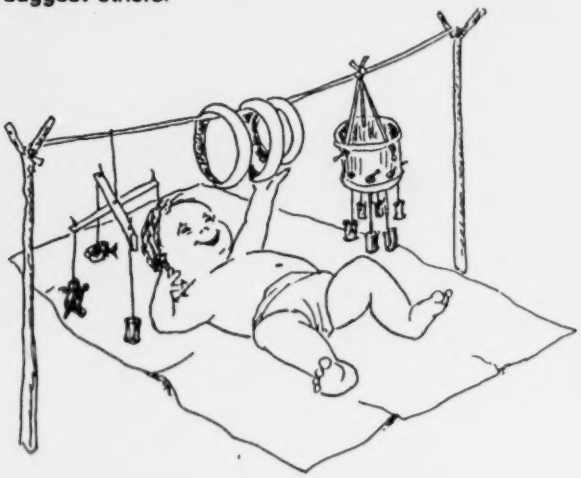
ACTIVITIES

Older children can help to organise better play for young children by understanding that children enjoy different kinds of play at different ages, as the following activities suggest.

Activities for Young Babies

Older children can begin by looking at babies in their own homes. How do they play? What can they do at different ages? What makes them laugh? What makes them move their hands, their heads, their eyes, their legs? What do they do when someone comes into the room? when someone takes their hand? when someone talks to them?

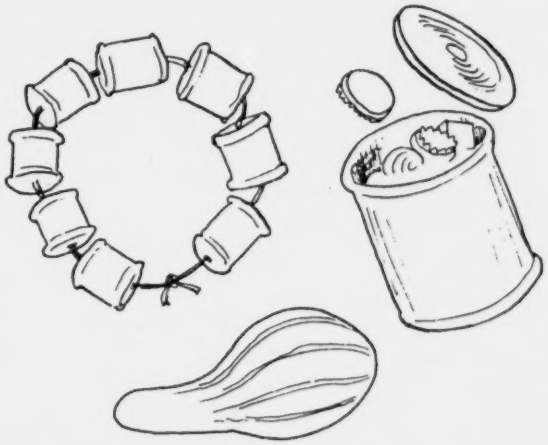
How can we help babies to learn to do more things? Here are some ways; children themselves may suggest others.



When they are very small, babies learn mainly through being **touched**. They need to be gently handled as much as possible by those who love them.

Little ones also like to **look** at things like a hand moving slowly in front of them, or a mobile hung above their bed. They enjoy people hiding their faces suddenly behind a corner or behind a piece of cloth.

They also like to **listen**. They like to hear the sound made by stones rattling in a tin can or of seeds in a dry pod. They will turn to discover where hands are being clapped. **Most important**, they like to hear someone **talking** to them. We should always talk with babies and encourage them to talk back. The sounds they make are their own language. Language is perhaps the most important thing for babies to learn. Babies like to listen to music. Sing to them.



Activities for Babies Learning to Crawl

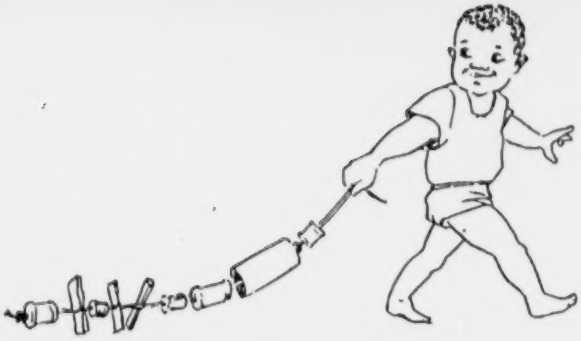
Babies like to use their bodies. Put them on their stomachs so that they can push themselves up. Help babies to sit. Put things just out of reach so that they have to find them. Give babies spoons, sticks and noisy things like pans and tins to hit. Give them things to pick up and play with.

Don't forget to keep talking to babies and encourage them to imitate words. Make baby laugh. Make baby look at you. Tell baby what you are doing: "I'm going to cook your food now". Baby will start to copy you.

Activities for Babies Learning to Walk

Help babies to stand up. Be ready to catch them when they try to walk. Babies like to be thrown carefully up and down. Take them for small walks, show them things, and talk to them about what they see around them. Give them things to push and pull.

Toddlers like to **do** things. Let them help when they are being dressed. They can learn to talk about their clothes and what they are doing. Give them matchboxes or tins with seeds and stones they can remove. (Be careful they don't put them in their mouth or nose!) They like to climb into cardboard cartons and hide behind chairs.



Activities for Pre-school Children

Long before they go to school, young children want to learn. They need to be given challenges through many different kinds of play and activities. Older children can help with this. It is very important to remember that even when young children have a smaller baby in the home who needs mother's attention they still need plenty of talk and play.

Older children can observe and discuss what things younger children like to do by themselves or with other children; what games they like to play; what new games we can teach them. Can these games be played with boys or girls or both? Are they played alone or with two people or more? Do they need special materials or a special place?

Water, Sand and Mud

Children will play for hours with water and sand. Give them a few materials like different sized tins, gourds and calabashes. What can children use them for? Try putting holes in some of them. Thin bamboo, paw-paw or banana stems, or hollow reeds make good pipes and gutters. They can be used with soap and water for blowing bubbles. Tins, seed pods and pieces of wood make boats.

Building Games

Maize cobs, matchboxes, scraps of wood and cardboard can be used by children for building. Soft pith from palm fronds, grass stalks, banana leaves and thorns can be used for making or building things. Sisal, bark and other materials can be used for weaving. What other materials can be found for building and weaving?

Riddles, Songs and Stories

The stories, songs and riddles which young children learn can teach them to use language well, and help them to understand their culture and its values.

Taking Things to Pieces

Children can also learn how things work by taking things apart. Anything safe and no longer in use will do (pieces of old cars, broken clocks, locally made animal traps).

Sense Games

Children's senses of **feeling, smelling and hearing** can be used in play. Scraps of cloth, shells or stones can be put into bags for children to identify by feel. Scraps of soap, onion, flowers or anything else with a strong smell can be wrapped in paper with tiny holes in it. The children can smell them and guess what they are. Other things can be put into tins to identify by sound only when the tin is shaken.

Pretend Games

Children love to pretend they are mother or father or teacher. Supply them with materials they can use to make these games more interesting, like things for making a house, preparing food, making dolls, playing at shopping or market, or dressing up.

Adventure Games

Young children need to be very active. They like to run and play tag games. Fallen trees and steep banks are good places to climb and slide down. Simple swings can be made with rope and old tyres, which are also good to roll and to climb through. Stilts can be made with big tins and string. Large stones can be placed so that children have difficulty stepping from one to the other.

Learning What Adults Do

Small children will enjoy a visit to a workshop, a bakery, or any other place where they can see work being done by adults in their community. Encourage children to talk about what they have seen when they get home.

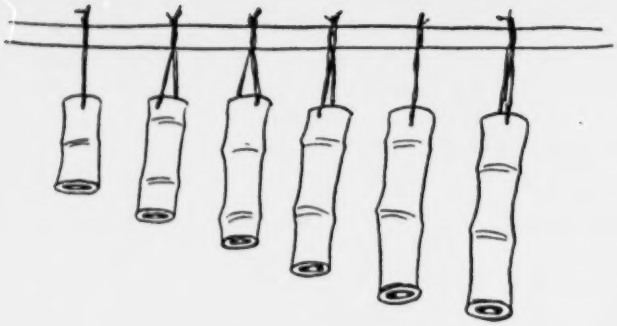
Playing with the Sun

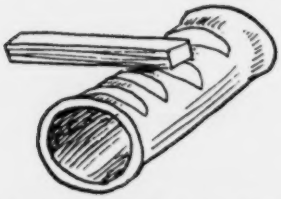
Children can play tag with their shadows. They can draw round their shadows in the dust, or make the shadow of their finger point at stones. They can make their shadows carry, kick or stand on other children's shadows. Children can play games with mirrors or shiny pieces of tin.

Music

Music can be used in many ways in games. Children can be active while music is playing, or drums are being beaten, and stop when the music stops. This teaches them to listen carefully. Music can be used for dancing. This helps them to listen and to move at the same time.

Musical instruments can be made out of reeds and gourds. Children can clap their hands, sing, beat on





tins for drums, or shake gourds with seeds in them. Even blowing on the edge of a piece of paper or over the mouth of a bottle can make music.

Other Games
Children can learn from other games like flying kites, playing with tops and hoops, clapping, counting and singing games, hop scotch, and other skipping and running games. If cheap paper and pencils can be found, children can draw.

Organising Play

Older children can help younger ones to play better in a variety of ways:

- **at home**, older children can help by talking about play activities with their mothers and fathers, by making a special place for children's play, by setting aside and looking after a special box for baby's and children's play materials;
- **in creches and nursery groups**, older children not only can learn from the nursery teacher, but can help to make materials for play and to look after them;
- **at school**, older children can set up play areas, and organise and help care for materials for the younger classes;
- **at clinics** and other meeting places, older children can organise play materials for younger children attending with their parents.

If children want to help organise better play for younger children, they can:

- talk things over among themselves, with mother and father, and plan how to bring play materials into their own homes, how to organise them, how to care for them;
- discuss with the nursery school teacher, the childminder, the community worker or the nursing sister how best to help;
- persuade head teachers and community members that the school or meeting place can be used to set up a play activity.

FOLLOW-UP

This is discussed at the end of **Toys and Games for Young Children** (Sheet 1.2).

USING THIS SHEET

Mothers and fathers will be especially interested in new ways of playing with younger children, and older children can tell them about these. Many other people can also help:

- **school teachers** can introduce ideas in the curriculum, carry out projects at school, and help to raise money;
- **school headmasters** can make time and space available at school for better play activities for younger pupils and preschool groups;
- **health workers** at home and in clinics can explain the advantages of better play, and spread the idea of talking more to the baby;
- **preschool leaders** can use and demonstrate better play ideas in their own programmes;
- **press and radio, women's groups, religious groups, political and cultural organisations** can demonstrate and talk about the idea of better play, and of talking to babies and little children;
- **youth leaders and community workers** can help older children to organise play for younger children.

Most important of all, older children can help by making toys, learning new games, playing and talking with the younger children.

This sheet should be used together with **Toys and Games for Younger Children** (Sheet 1.2) which concentrates on play materials (where to get them, how to make them, and how to use them), and **Playing with Babies** (Sheet 1.6).

TOYS AND GAMES FOR YOUNG CHILDREN

THE IDEA

It is important that children learn to use play materials of many different kinds. This helps them to experiment, to use their imagination and to use the muscles in every part of their bodies (eyes, arms, hands and feet). Excellent playthings can be made with materials which cost nothing.

This sheet discusses **how** older children can play with their younger brothers and sisters, **where** they can find materials, **what** to make and **how** to make it.

All communities are rich in materials for play activities. Children themselves are very good at finding playthings, and are always trying out new ones and thinking of ways of playing with them. But they never think of **all** the materials they can use, and **all** the best ways of using them. They need help to add to the ideas they already have.

Children can **collect together** all the different ideas and materials which could be used for making toys and playthings, and **talk about and share** the different things they can make for their younger brothers and sisters.

Older children should always remember to make sure that play materials for young children are safe. They must avoid:

- things with sharp edges;
- small pieces which young children could swallow or put in their noses or ears;
- plastic bags which can suffocate little children.

This child has as many good toys ...

... as this one

Children do science when they

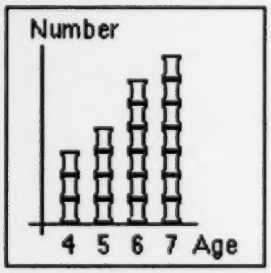
- **Make a prediction ...** **'Older children will be better at building than younger children'** (What can they build with? What do we mean by better?)

  and They can build with cotton reels. Higher can mean better.

- **Test it by experiment ...** *Find 10 cotton reels, all the same shape and size.*
  Show a child how you can build a tower.
  Find out how old the child is.
  How high can the child build?
  Let them try three times. Keep a record of the highest tower.
  Do this with children of different ages.
  Make a graph of your results.
  What do your results tell you?

What other predictions can children make?

Let them try to test them.



Are your results like this?

ACTIVITIES

Collecting Play Materials

Older children will be able to find play materials in many different places in the community:

- **at home**: sand, gourds, tins, boxes, etc.
- **from shops**: scraps of cloth, packing material, bottle tops, cartons, paper, etc.
- **in the community**: cornstalks, stones, clay, grasses, seed pods, dye from local plants, etc.
- **from local craftsmen**: scraps of cloth, wood, metal, leather, etc.
- **from local musicians**: materials (and advice) for making simple musical instruments
- **from local industries**: waste paper and packaging, broken or used parts, wood, etc.

Making Play Materials

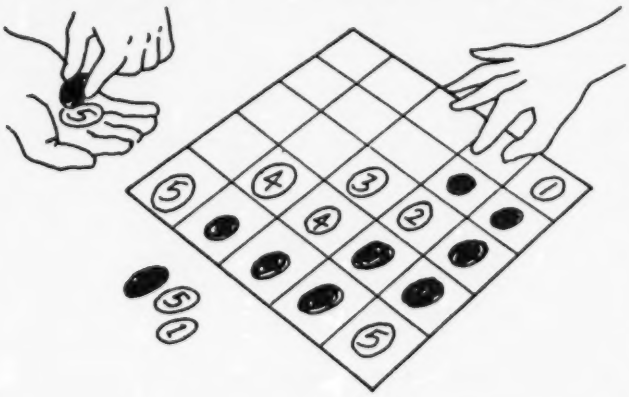
School time can be made available for older children to make play materials for young ones. Here are some examples:

The art and craft lesson: toys like cars, dolls and models; games equipment like balls, hoops and ropes; paints and brushes for making pictures; puppets; building blocks.

The language lesson: books with stories and pictures; reading cards with pictures and words; posters and charts.

The music lesson: instruments like drums, rattles and flutes; collections of songs and singing games.

The maths or science lesson: puzzles, shapes and dominoes; games like Snakes and Ladders, Ludo.



Organising Play Materials

Don't forget that play materials which have been collected will need to be stored and cared for. Can a special place for children's play materials, even a special box, be set aside at home? at school? at the clinic? How can older children help to care for children's play areas in these places?

Using Play Materials

Older children can decide to collect materials for younger children which are as interesting as possible. They can think about all the different things that children can learn from the games they play with these materials.

Playing with Hands

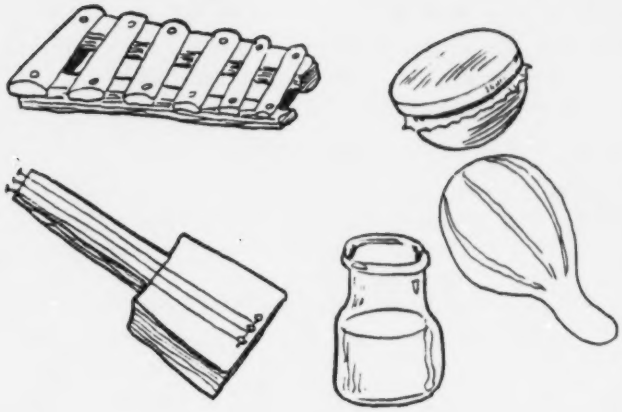
When babies grow older they learn by doing difficult things with their hands. What materials can be used by young children for building? for weaving? for cutting, drawing and pasting? What games, like cat's cradle, can encourage young children to be clever with their hands?

Clay or mud can be given to children. They can make many things from it. Encourage them to use materials like sticks and leaves with clay, to make model houses, animals and many other things, real or imaginary.

Matchboxes and small tins can be filled with things like small seeds. Children can learn to put things in them and take things out of them under supervision.

Sorting Things

Young children like to sort things. They can be given many different kinds of things to play with and sort: like flowers with different colours and different smells, scraps of cloth which look and feel different, dull things and shiny things, big things and small things.



Dressing Up
Older children can provide materials to help younger ones dress up and pretend. Children only need a little help to dress up. Paper, leaves, sticks and bits of cloth can easily be used to make hats, dresses, and other 'pretend clothes'.

Active Play
Preschool children learn by being very active and using their bodies. Older children can design games of throwing and catching, jumping and skipping, climbing and sliding, etc., that help the younger children use the muscles in their bodies. What kinds of equipment do children need? What can this equipment be made from?

Making Music
Young children love to make music. Older children can make simple drums and rattles, and teach younger ones to dance and sing and play their instruments in time with songs.

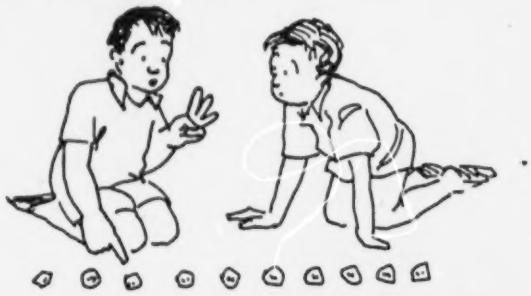
Other Kinds of Play
Young children love playing with water. Older children can provide materials that float and sink in water, or make water flow long distances. They can make reed pipes of different sizes that water flows out of at different rates, or that can be used for blowing bubbles. What different shapes and sizes of containers can be collected for younger ones to use when playing with water and mud?

All children love to draw and paint. Scrap paper, cardboard, newspapers, etc., can be used for young children to paint and draw on. Paints can be made from inks, dyes or local plants. Brushes can be made from chewed sticks. Glue can be made from a local food like flour, mixed with a little water.

Talking and Listening
All children love to learn through talking and listening. Older children can collect stories, songs and riddles for younger children. Make sure to find opportunities to encourage the younger children themselves to talk. Make playing introduce ideas like 'bigger than, smaller than, the same as, smoother, rougher and heavier' and other phrases.

Teach younger children traditional games, make other games like these or make up new games.

Counting Games
Draw squares on the ground and number them. Throw the right number of stones in the right space. Then learn to copy and write the numbers in the sand, or with chalk or on paper.



Practise finding numbers together in the streets, finding and telling where people live, collecting car numbers. Think of other ways to play with and use numbers you see in the street:

- sing counting songs; use familiar ones or make your own;
- count fingers and toes, backwards as well as forward;
- count familiar objects (like stones and leaves) and things around us (like animals, plants and people);
- count animals in the evening, count produce for market;
- play shop, learn to give change (paper money can be made at school), and then go shopping together.

Reading and Writing Games
Make an alphabet book at school, perhaps with cloth or make a set of cards with a letter on each one. Put a picture of a word beginning with that letter on a small

card. Use capital letters as well as small ones. Children can learn which letters make their names and the names of their friends. They can choose the cards which spell their names. They can practise writing the letters on the ground with a small stick, or on small cards.

Helping the "Childminder"

Many children who do not go to school look after very young children while parents are away or working. Older school children, or youth group members, can be divided into smaller groups. Each group can be in charge of a certain number of houses. These groups can take play activities to the children who stay at home. They can also help them learn to read and count. At school, older children can make picture books, toys and simple games which can be used by other children who care for younger ones.

Often these children have their own ideas to share: they know traditional games, songs and stories, and can be encouraged to teach these to the school children.

Helping at Clinic

Often little children who come to clinics need toys and games to play with while they are waiting. Sometimes mothers who come to clinics with their babies bring along other children who need to play. Older children can help by making toys for these clinics and even help to play with the children there.

FOLLOW-UP

(This section refers to Sheets 1.1 and 1.2 on play.)

Find out how many of the children have younger brothers and sisters, or older brothers and sisters who stay at home. Why do they stay at home? Have they been to school at all? Can they read, write and count? Share experiences.

How many of the school children have helped those at home? Ask them to tell stories about what they did for children at home. How can they do better next time? What games were best for teaching counting and number skills? What games were best for teaching letters, reading and writing? Did anyone think of new games for teaching these skills?

Have any of the children carried out any of the suggested activities in such a way that it has made a difference at home? in the community?

We can ask the following questions:

- Do people in the neighbourhood (including the older children) know why play is important for young children? Does the school teach why play is important for young children and how the quality of children's play can be improved? Are older children encouraged to play with the younger ones? Are they allowed time and materials for this kind of activity? Do adults in the community show more interest in children's play? Do they understand the need to help and provide materials and play places?
- What materials have the older children collected? What toys and playthings have they made? What songs, games and stories have they collected or made up?
- Have teachers and health workers noticed young children using any new toys, playing any new games?
- Can the older children tell if the toys, games and play areas they have made are well used? Are play areas well-organised, safe and kept clean and tidy?

USING THIS SHEET

Many different people are interested in improving play facilities for younger children, including parents, school teachers, health workers at home and in clinics, youth leaders, preschool groups and community workers.

- Craftsmen and parents can provide skills and labour;
- School teachers can help children to raise money for some materials;
- Headmasters can help make arrangements for the school to be used for playgroups, or even give older children special opportunities to make toys for younger ones;
- Headmasters can arrange the timetable so that older children can do many of these activities for children in lower classes;
- Local women's groups, religious groups, and political and cultural organisations can explain to parents and others why children need to play.

None of these people can do without older children.

This sheet should be used together with **Playing with Young Children** (Sheet 1.1) which talks about why children need to play and develop, and how older children can help. **Playing with Babies** (Sheet 1.6) will also be helpful.

PLAYING WITH BABIES

THE IDEA

A baby's brain develops very fast during the first two years of its life. Of course all babies must have the love and security which comes from being held close to their mother. But children need stimulation as well as love and good food to help their brains grow well. Stimulation is provided by playing with children, talking with them and thus helping them to use their bodies and minds as much as possible. Older children can learn how babies develop and how to play with them in different ways and at different ages and so help them develop.

A Baby's Brain Must Grow and Develop

A baby cow or sheep is born with its brain and limbs well developed so that it can stand and follow its mother a few hours after its birth.

The human baby has a much larger brain, but it is not fully developed at birth. It goes on growing, especially during the first two years of the baby's life. After this time, it grows much more slowly. During these first two years, children need food, love and stimulation to help their brains grow as fast and as well as possible. If children do not have enough food, love and stimulation in these years, it can affect their future lives.

In South America, a study was made on three groups of poor children. One group had good health care but not enough food. Their mental development did not improve and they did not grow well. A second group had plenty of food and good health care but very little stimulation. They grew well but their mental development did not improve. A third group received good health care, good food and a stimulating home and loving environment. The children in this group grew well and their mental development was as good as any in the country.

Children do science when they

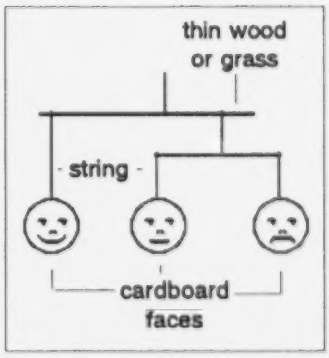
- **Observe ...** Look at and listen to a baby play with a mobile
- **Record ...** Keep a record of what they see and hear

Time	*What I saw*	*What I heard*
7.00	*Baby pointed at the smiley face*	*Baby laughed*

- **Infer ...** Conclude that babies like faces on a mobile

  and *because*

- **Hypothesize ...** Babies have learned that faces mean fun, - but what else do **children** think?



This sheet is about stimulation - but remember that freedom from disease and good food are also important
(*See* **Section 2 on Nutrition.**)

Love is Important - But Not Enough

All over the world families love and care for their children, but unless they play with them and stimulate them something will be missing in their development. This is where older children can play an important part. They need to know how babies develop and how to help them and play with them in different ways at different ages. Remember: Every child is different and babies develop at different rates. Babies who have not had enough to eat or who have been ill need extra help and play.

Mother Comes First

But love and comfort, at first, comes before play. In the first three months of life the baby is sleeping and feeding close and warm next to its mother. She carries it close to her by day and it sleeps with her at night. This gives a feeling of security and belonging which is the basis for all future development, whether it is physical or social or emotional.

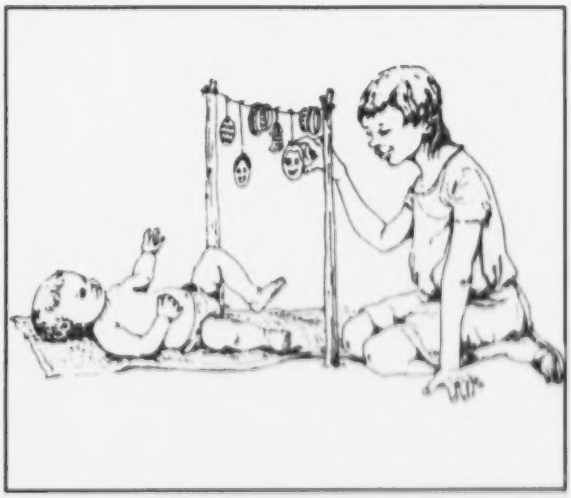
How to Stimulate Children

There are many things to do and games to play with young children at different ages and stage of development.

Play from birth to 3 months

During this time the baby develops very quickly. Watch the baby. Ask the mother if you can play with her. Hold the baby. Talk to her. Sing to her. Gently rub her cheek. She will turn her head towards it. Put your finger in her hand. She will hold it. After about 6 weeks she may begin to smile. If you move a bright object like a flower or a spoon she may turn her head to look at it.

Older children can have more and more contact with their younger brothers and sisters after the first three months. Here are some useful ideas. There are many others. **Remember:** Babies love to hear your voice. Talk and sing to the baby when she's awake.



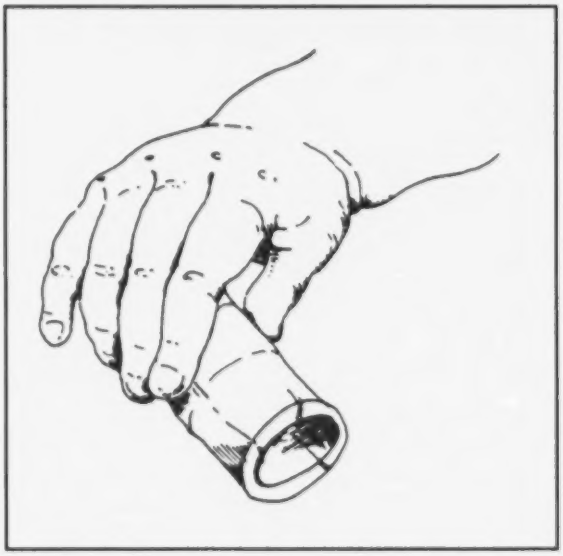
Play between 3 months and 6 months

(1) Hang a mobile made of circles cut out of cardboard on which are drawn faces and bright patterns near where she lies. If this is difficult to make, use any small light moving objects.

(2) Tie or hang objects like spoons close to where she lies so that she can reach and hold on to them.

(3) Make a sound with a spoon and tin or clap your hands so that she will look to see where the sound comes from.

(4) Cut a smooth ring out of bamboo, let the baby reach for it and take it to her mouth; be sure it is clean.



WARNING: All babies put things in their mouths. Be careful what you give them.

(5) Find or make a smooth object and give it to her to hold. You will see that she drops it when you offer her a second one.

(6) Find games that make her smile and coo. These baby sounds are the very beginnings of speech. When you carry her about tell her the names of objects.

Play between 6 months and 9 months

(1) Help her to sit up for games. Support her if needed. Talk to her while you play. Call her name or sing a song from different places in the room and see if she can turn her head to find you.

(2) Begin to teach her to drink from a clean cup.

(3) Make her a rattle to shake or give her a spoon to bang.

(4) Hang some of her toys on pieces of string near where she lies so that she can just reach them.

(5) Give her two, then three and four smooth objects. Encourage her to pass or give them to you or pass them from one hand to another.

(6) Give her a block or a tin and she will enjoy throwing it on the floor and then looking for it. She will do this again and again.

Play between 9 months and 12 months

(1) Play games to encourage her to crawl, stand and walk. For example, pretend you are a mother animal and she is a small one. Hold her hand. Take her for a walk. Show her things and talk about them.

(2) Get her to give you a hug, clap her hands, or wave 'Good-bye', and so practise all the skills she has learnt. Hand her objects that she can hold between her finger and thumb. Watch out! By now she loves throwing things, not just dropping them. Make a soft ball out of grass or cloth to throw.

(3) Give her two objects and you hold two more. Bang yours together. Can she copy you? Can she copy this? Make clay or mud animals for her to hold. Get her to imitate their noises.

(4) Give her a box and things of different sizes to put in and take out of it.

(5) Hide something under a cup or piece of cloth as she watches. See if she can find it.

(6) Tell her stories and sing songs with actions. Sing songs you learnt when you were small.

(7) Make a doll and tell stories about it.

Play between 12 months and 15 months

(1) When she can walk, let her run and jump into your arms for a hug. See if she can walk a few steps backwards. Watch that she does not hurt herself. She will learn to climb up stairs and steps but will need help getting down. At first she will come down backwards.

(2) Make her a toy on wheels that she can push as she walks, like a box with wheels and handle.

(3) Help her use a crayon to scribble on paper. Make drawings in sand or mud with your stick or finger and talk to her about it.

(4) Roll a ball to her and get her to roll it back.

(5) Put one object on top of another. See if she can copy you. Let her make things with bricks and blocks. Wrap a brick in paper. Let her unwrap it.

(6) Encourage her to feed herself with a spoon. Talk to her. Encourage her to fetch things and take them to her mother. This shows how much she understands. Encourage her to name things around.

Making a Record

When you have a new baby take a sheet of paper or use the middle pages of an exercise book. Put her name and the date she was born at the top. Then mark the sheet of paper into 4 sections across and 13 sections down the page as is partly shown in the diagram. The sections across are the weeks in the month; 1, 2, 3 or 4. The sections down are the months 3-15. Label the sections 3 months, 4 months, 5 months, 6 months, etc. up to 15 months in the left hand side. Each week ask your mother and write down the new things your own baby can do, e.g. at 4 months and 2 weeks he first lifted his head to look, at 10 months and 3 weeks he said his first word clearly - MAMA. You may like to decorate it around the edges and take it home for your mother to hang it up for all the family to see. In school, with your teacher's help, you can display it and explain to other children how you observed the exciting development of your baby.

Remember: because one child learns to talk or walk quicker than another it does not mean that she will always be ahead.

Baby's Development Card

Name: Date of birth:

Month	Week 1	Week 2	Week 3	Week 4
3	Baby turns eyes to look when I clap	Baby grasps wooden brick	Baby finds his mouth with his thumb	
4		Baby takes bamboo ring to his mouth		
5	Baby drops a brick and takes a second one		Baby makes cooing sounds	Baby puts toe in his mouth
13	Baby takes 2 steps alone	Baby throws a ball		
14		Baby runs 6 steps and jumps into my arms		Baby scribbles with a crayon
15			Baby climbs 3 stairs. I help him down	Baby fetches a spoon when I asked

ACTIVITIES

Activities in School

Every child in school needs to learn about the development of babies and why it is important to play with them.

Children in upper classes in primary schools need to be encouraged to:

- *Discuss* the need for play with babies and how far the need is being met.
- *Make cards* for each baby born in the family. Compare the cards to see how babies develop at different rates.
- *Collect* suitable materials for making toys.

Children can also develop activities in many different school lessons. They can:

- Design toys in *Mathematics* lessons.
- Make them in *Handwork* lessons.
- Write about their younger brothers and sisters in *Language* lessons.

Activities out of School

With the child minders. School children can talk to child minders - especially those who do not go to school. They can:

- Discuss with them about playing with babies of different ages.
- Show them different ways of playing.
- Collect play materials for them and with them.
- Invite the child minders to school to tell about the babies they care for.

With older people. Older people (often grandmothers) often look after babies with great affection. Ask them to make things, sing songs and tell stories to babies so that you can learn from them too.

Sometimes fathers and mothers with skills can be persuaded to make things (like wooden blocks or dolls) specially for babies.

FOLLOW-UP

Find out and test how far older children understand the development of babies and how they can help. Use this information to test other material - e.g. Adamu walks at 10 months. He was born on 10 December. In what month did he start walking?

Children can:

- *Collect and show* toys made for babies at different ages.
- *Describe* the different kinds of play they have tried with babies.
- *Observe and list.* What objects and toys does baby play with at home? Have any new things been provided?

USING THIS SHEET

Teachers can develop these activities - in health lessons, in other lessons and by example as parents.

Teachers in college and in-service training can learn about play and make and record observations on individual children of their own or in the community. Colleges can have a special place where mothers can bring their young babies to play. Students can work and play with them.

Health workers can work with schools and youth groups.

Women's groups and mothers' groups can spread the message and develop toys.

Non-formal teachers in religious groups and parents' classes can spread the ideas.

Curriculum workers can ensure that this vital knowledge is incorporated in school programmes.

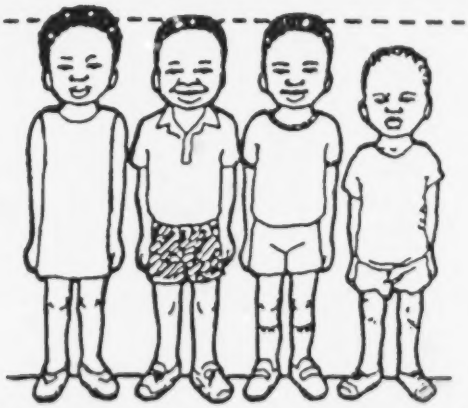
This sheet can be used together with **Playing with Younger Children** (Sheet 1.1) and **Toys and Games for Young Children** (Sheet 1.2).

SEE HOW THEY GROW

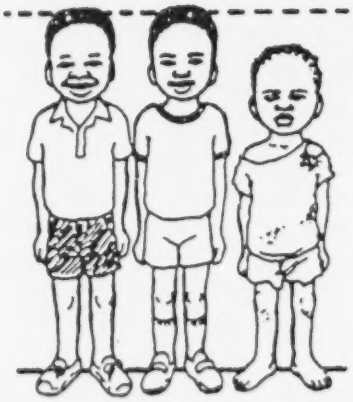
THE IDEA

All children need to grow steadily so that they can become big, strong, bright adults. Children do not grow steadily when they do not get enough of the right kind of food or when they are ill. It is important to check children's growth regularly. For small children, weight gain as shown on a weight chart is the best sign of good growth. If they put on the right amount of weight in the right space of time, they are growing well. If weight gain is not regular, action needs to be taken.

Healthy seedlings grow into healthy plants. Healthy children grow into bright, strong adults. Healthy children grow and gain weight. It is impossible to tell from looking at a child if he or she is growing as they should but you can see if they are gaining weight steadily on the weight chart. Are they moving up month by month? To grow, a child must eat enough food of the right kind (*see* Sheet 2.1, **Healthy Food**). A child who does not eat enough food of the right kind may get malnourished. A malnourished child cannot grow well and his or her brain may not develop fully.



a.

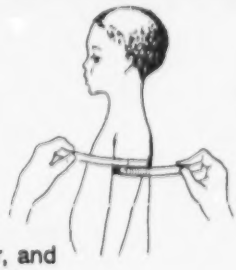


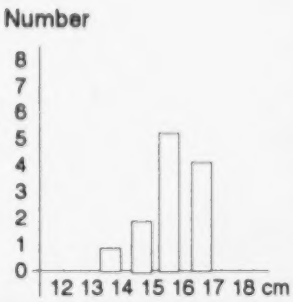
b.

In some countries, one child in four is too small for his age (a), in others, it may be as many as one in three (b).

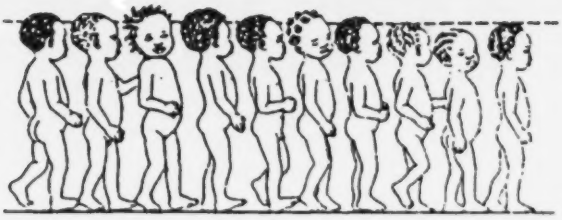
Children do science when they

- **Measure ...** Use a paper strip to measure round children's arms.
- **Record results on a graph ...**
- **Infer ...** If the child is older than one year, and the measurement is less than 12.5 cm, then the child may be malnourished.

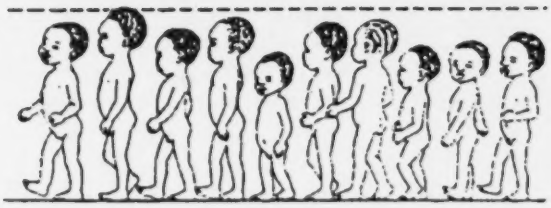




(See also 2.2 and the use of the Shakir Strip to measure upper arms.)

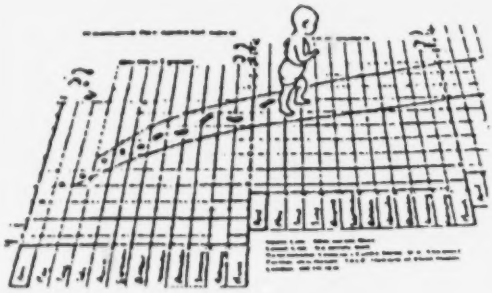


Average well-nourished children at 18 months. There is some variation, some are children of large, tall parents, some of small, short parents.

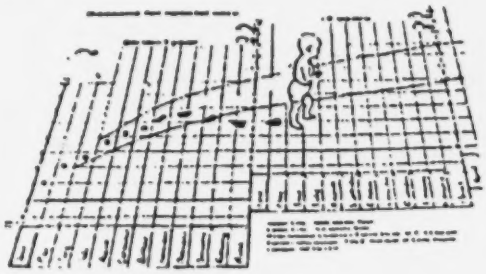


Average children at 18 months in many countries. There is much more variation in size due to illness and the scarcity of good food.

Not all children gain weight at the same rate and not all children weigh the same at birth.

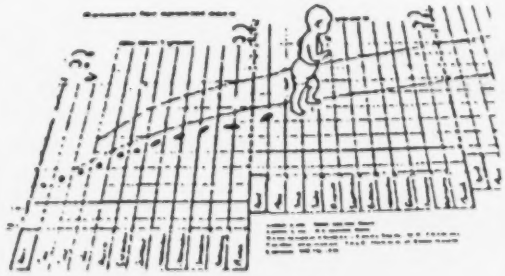


This child's weight is rising steadily. He is growing healthily.



This child is not gaining weight. He needs help.

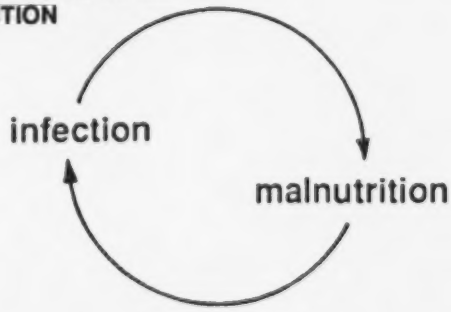
If the child's parents are small, then the child may also be small and weigh less than the other children but he is not in danger if he continues to gain weight steadily and keeps walking beside the line.



This child's curve is below those of most of the other children but he is still gaining weight and there is no need to worry about him.

A child who is ill may lose weight and become weak. He may not want to eat and so loses even more weight and becomes even weaker. A weak child cannot fight disease very well so he becomes ill again sooner and then loses even more weight. An ill child needs to be encouraged to eat. An older brother or sister can help in this. A malnourished child is more likely to become ill and will take longer to get well again.

THE VICIOUS CIRCLE OF MALNUTRITION AND INFECTION



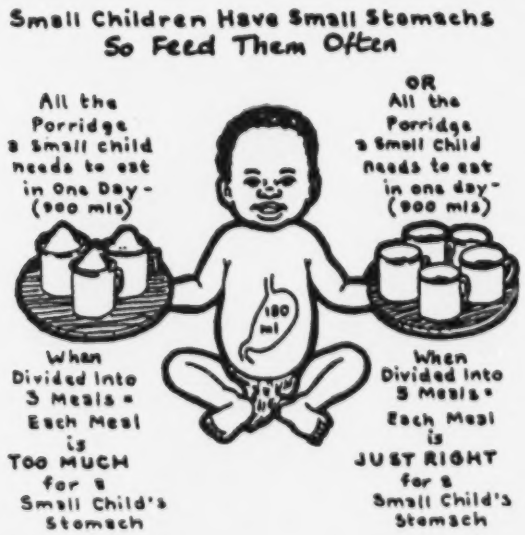
After a child has been ill, he needs extra food to help him catch up and regain his lost weight. He needs to eat extra food for two to three weeks. He needs to eat more often until his weight returns to normal. A child has a small stomach and can only eat a small amount of food at a time. Discuss with the children why a child with an infection does not eat well and can easily get malnourished and why a malnourished child often gets a more severe infection.

A child may be malnourished because:

- not enough of the right kind of food is available;
- there is not enough awareness of what a child needs to grow healthily;
- he may have been ill or so unhappy that he does not wish to eat.

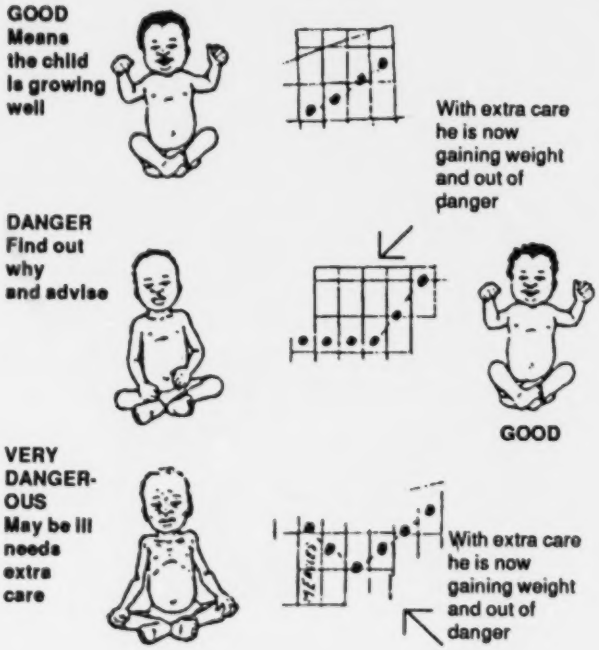
Different solutions are needed in each case.

Cause of Malnutrition	Solutions
The child is ill	Immunization Hygiene Good food Extra food to allow him to catch up. Presence of an adult who shows him regular love and attention.
Not enough food available	Better sharing within the family and between families in the community. More frequent meals. High-energy and protective foods. Longer breast feeding. Avoid bottle feeding.
Poor knowledge of good feeding habits	Education about good eating habits and communal food production. Hygiene and protective measures. Ensuring that the message is spread throughout the community, particularly to the poorer families. Encouraging children to eat when they are ill.



A baby who is growing well doubles its birth-weight by five to six months, triples it by about 18 months and quadruples it by three to four years.

If the weight of a small baby stops increasing for more than two weeks or the weight of an older child for more than one or two months, this is a sign of trouble, and if he actually loses weight he has probably had an illness and should see a health worker.



ACTIVITIES

FINDING OUT

1. The children can measure the weight and height of all the children in the class. Are the taller ones always heavier than the smaller ones. What is the average height/weight of the class? Of the girls? Of the boys?
2. If the children have brothers and sisters, can they weigh them? How many dots have been marked on their charts? Can they carry them? Are they heavier or lighter than their brothers and sisters? Are they older or younger?
3. The children can find out about the eating habits of their community. They can keep a record of what foods are eaten and how often:

   a) over 2 months;
   b) over 6 months;
   c) over 1 year,

   and write a report. When were the foods different? When was more eaten? When less?

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4. When do people eat special foods? What kinds of foods? and why? Can they think of other activities in the community to do with food?

5. The children can keep a record of what:

   a) a six-month-old child eats in a week;
   b) an 18-month-old child eats in a week;
   c) a three-year-old child eatsin a week.

   Are they eating well? Would the children change the foods? How?

6. The children can record which foods are available when.

7. In a month, what proportion of the class gained weight, lost weight and remained the same?

DOING

1. The children can grow good foods like vegetables in the school yard, in small pots, near their homes. They can look after the plants together and share the products.

2. The children can find out in which houses there is an ill child. Can they help the family by:

   - encouraging the child to eat more;
   - doing little jobs for the mother to give her more time for cooking and feeding the child;
   - bringing him good things to eat.

3. Mark the place on a corncob where the circumference is 12.5 cm (or 13.5 in a community where there is little malnutrition). Let the children put a finger and thumb around the cob at the mark until they get used to the feel of it. They can then go and check children between 1 and 5 years of age to see if their midarm circumference is large enough.

4. With the health worker's help, they can copy the growth chart of children who are growing well. Do they know other children who are not growing well? Copy the chart of a brother or sister and compare it. What happens on the chart when the child is ill?

FOLLOW UP

1. Can the children together plot weight onto a weight chart? Each child can plot another child's weight. Guide them to discuss what the curve means.

2. Can the children sort out different weight charts into those which are:

   - growing well;
   - not growing too well;
   - are in danger.

3. Can they plan the right action to take if the curve is not good?

4. Can the children make up a story to explain the growth curve of a particular child? They can tell the story to others in the community.

5. The children can make up a drama or a puppet show about two families, one with children who are growing well and one with children who are not. Why is this so? What can the families do? Can they help each other?

6. The children can make up posters about eating good food and staying well. They may use some of the ideas in this sheet.

7. The children can make up songs about normal weight gain (e.g. a baby who is growing well doubles its birth weight by about 5 to 6 months).

A STORY: WHAT MADE THE CHILD ILL?

"He's got malaria again. He's so ill and weak. He seems to get it so often."

"But the other children don't get it so often - and when they do, they get better quickly! Was he ill before?"

"Yes, he had diarrhoea - he was sick - he couldn't eat. It left him weak."

"Has he always been weak and often sick?"

"Yes! He was always ill. One thing after the other. More than the other children."

"Even when he was a baby?"

"Yes - and I don't know why. The other babies only had breast milk. We always gave him the best. We bought him bottled milk - from the time he was small."

This sheet should be used in conjunction with the sheets on **Nutrition** (2.1, 2.2, 2.3), **Children's Stools and Hygiene** (3.3), **Clean, Safe Water** (3.4), **Worms** (6.3) and **Immunisation** (6.4).

FEEDING YOUNG CHILDREN: Healthy Food

THE IDEA

Breastmilk is the best food for young babies but they soon need to eat extra foods to help meet their **energy, body-building and protective** requirements. They need to eat a **mixture** of foods to grow well, to be active and to learn properly. Children who are growing well are ill less often. Young children need to eat a lot of food. A two-year-old child needs to eat about half as much food as an adult.

Meals for Healthy Growth

Breastmilk for babies

Breastmilk nourishes the baby and protects him against sickness. It is best if a child can be breastfed until he is big enough to be able to share the family meal (two-years-old if possible). In any case, a child should never stop receiving his mother's milk very suddenly, especially if the child is very young (less than one-year-old). Sometimes this occurs when the child is sick or because the mother has a new baby. **This is very dangerous.**

Because breastmilk is so important for child survival and healthy growth there is a special activity sheet on breastfeeding (Sheet No 2.4).

First foods for young babies

For the first 4-6 months of a baby's life, breastmilk alone is enough for good growth. After this time other foods must be given as well. The first food given is often porridge made from a cereal like millet or maize.

After 6 months the baby can gradually be given other foods mixed with the porridge.

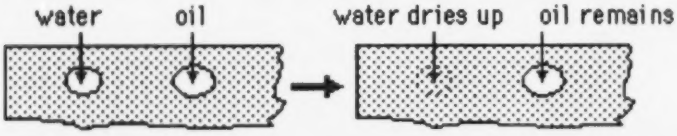
Every community has its own traditional first foods for babies. Children can find out which foods are used in their own area.

Giving a baby new foods will sometimes be difficult because the taste and feel of these foods will be different from breastmilk. The new food needs to be made soft and given a little at a time and many times a day, until the baby gets used to it and can eat enough. Patience, love and play are all important in helping the child to learn to eat enough of the new foods. Feeding may take some time. Talking and keeping the child interested and happy (try singing songs) may encourage the child to eat more.

It is very important that food for small children is **prepared cleanly**. **Remember** the rules of good hygiene described in Activity Sheets 3.3, 3.4, 3.5, 6.3.

Children do science when they

- **Test foods..** to see if they contain energy-giving oil.



Food	Test for oil
onion	no
ground nut	yes
avocado	?
sorghum	?
.....	?

A water drop dries on newspaper. An oil drop does not dry. It leaves a clear greasy mark. Pupils can test foods to find out if they contain oil. Crush a ground nut onto newspaper. It leaves a greasy mark. It contains oil. Crush a piece of onion onto newspaper. It leaves a mark, but it disappears. (Water in the onion evaporates. Oil in the ground nut does not evaporate.)

How to choose foods to add to children's porridge

For good growth children need to eat a **mixture** of foods.

Foods like sorghum, millet, rice, maize, cassava, potato and plantain all provide **energy**. They form the main part of our meals and are called **staple** foods. These are often made into soft porridges for babies.

Small amounts of body-building, protective and energy-rich foods need to be added to this porridge made from staple foods.

How can we increase the amount of energy that a young child eats? Fats and oils are very rich in energy. One spoonful of oil or fat provides **twice** as much energy as one spoon of cereal flour.

The **staple foods together with fats/oil** are the main source of **energy** in our diets. **If we do not get enough energy from these foods, body-building proteins will be used for energy instead of for growth and repair.**

Cereal staples provide useful amounts of body-building protein as well as energy. But young children need extra protein for good growth and recovery from illness. Most children get this extra protein from foods like beans, peas, lentils and groundnuts. Meat, fish, milk and other animal foods also provide protein but are not always available and may be expensive. However, if you include even a very small amount of these animal foods in the meals for young children this will greatly improve healthy growth. For example, red meat and small dried fish provide the iron which is essential for making the child's blood.

It is very important to include protective foods in children's meals to provide vitamins and minerals needed for healthy growth. Vitamin A from red palm oil and dark green leafy vegetables and orange and yellow fruits and vegetables like paw paw, mango and carrots is essential to protect children's eyesight and increase resistance to illnesses like diarrhoea and chest infections.

Ideas on growing plant foods like vegetables, fruits and cereals can be found in Activity Sheet 2.3.

The food square below will help you to choose the right mixtures of foods for children's porridge. We have put breastmilk in the centre of the food square because it is so important for healthy growth during the first two years of life. Try to give each child something from each section each day. You can also include other low cost foods available in your area, e.g. a porridge from Nigeria may be made from sorghum (millet) supplemented with a small amount of beans, spinach and sunflower oil.

The Foodsquare to help choose good mixtures of foods for feeding young children

Staple foods	**Body-building foods**
Millet Maize Potato Cassava	Beans, peas, lentils, groundnuts, milk, yoghurt curd cheese, fish (fresh, dried or canned) meat (fresh, canned) chicken, eggs
breast milk	
Protective foods	**Energy-rich foods**
Dark green leaves, pumpkin, tomatoes, carrots, oranges, limes and other yellow orange fruits and vegetables	red palm oil, ground nut oil, sunflower oil, butter, ghee, margarine, lard, cooking fat, sesame seeds, coconut cream, sugar, avocado pear

Recipe for a meal for a small child*

	raw weight in grams	approximate local measure
Sorghum flour	40g	2 tablespoons
Bean flour	20g	1½ tablespoons
Red palm oil	5g	1 teaspoon
Spinach	30g	about 5 leaves
Onion, to taste	5g	1 teaspoon

* When cooked this will provide about 1 cup (250ml) of food.

Many people know that children need body-building and protective foods to grow; and they know that energy foods are important for activity. Some people do not know that energy foods are also essential for growth. Many children stop growing well when they are about 6-12 months old. Often this is because they do not obtain enough energy from their food.

Young children cannot get enough energy from thin porridges made from cereal flour like maize or millet. This is because the flour swells up when it is mixed with water and cooked. A child's stomach will only hold about one cupful of food and this amount of thin porridge will not provide enough energy to grow. Thicker porridge made with less water provides more energy but can be difficult for a young child to swallow. Children need energy-rich meals.

Another reason why young children may not get enough energy is because they are not fed often enough. Children are often fed only once or twice a day. This is not enough. **Small children need to have meals and snacks at least 4 to 5 times a day.**

Sick children may not want to eat - **this is very dangerous.** Sick children need to be encouraged to eat and drink as often as possible. **A child who has been ill needs extra food.** He can be fed **at least 6 times a day** until he gets back the weight he lost during the illness. Feeding sick children can be difficult and take the mother's precious time. Older children and grandparents can help feed young children in their family.

Children with diarrhoea and chest infections need to eat soft foods which are easy to eat, taste good and are free from germs.

In some communities, porridge is traditionally soured or fermented. During fermentation, food becomes more acid which is why it tastes sour. This prevents the growth of germs which cause diarrhoea. This means that a mother can safely prepare soured porridge once a day and use it to feed her child several times during the day. Young children like the taste of soured porridges which encourages them to eat more. Soured porridges stay soft even when cool and are easier for a sick child to swallow.

Children can find out from older members of the community more about the traditional use of soured porridges for feeding children.

Preparation of energy-rich meals

When porridges have been cooked, they are bulky and on their own do not provide enough energy. It is therefore important to add more concentrated energy foods to these porridges. Oils and fats contain the most concentrated energy but sugar is also a good source.

Other foods such as ground nuts, soybeans, sesame seeds, sunflower seeds and avocado pear are all rich sources of energy.

A small amount (1 teaspoon) of energy-rich food should be added to every meal for a child.

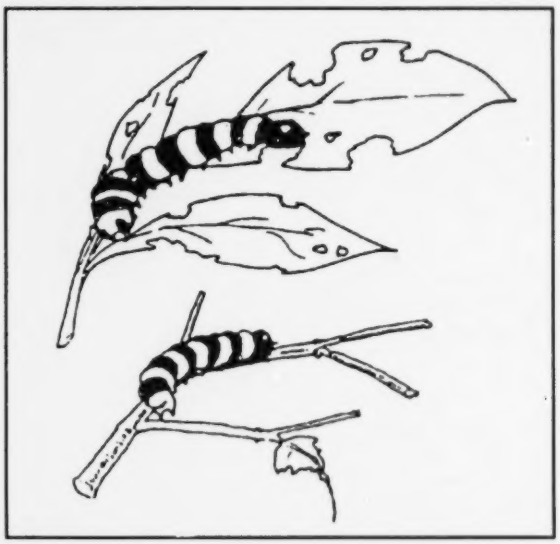
Using germinated cereal flour to increase the energy of porridge

In some communities cereals are allowed to sprout (germinate) before they are dried and ground into flour. For example, in Tanzania sorghum (millet) is germinated and in India wheat, rice and maize have all been used successfully. In many places people are now using this flour to add to children's porridge. They do this because a spoonful of this germinated flour will thin down a thick porridge enough to allow a child to swallow it without adding extra water. This will help the young child get more energy from the porridge.

ACTIVITIES

Finding out how food makes the body grow properly.

Children can be helped to understand the connection between food and growing by observing the growth of animals - two caterpillers, for example. (Fly larvae, or any other larvae found locally, could also be used for this). To one, give plenty of the right kind of leaves (find a caterpillar on a leaf and give it plenty of that kind of leaf); to another give almost nothing, or the wrong kind of leaf. After several days, compare the size of the two caterpillars. The one which has been well fed is the bigger. Why?



Understanding that a baby needs his mother's milk, but in addition must have other foods after the age of four months.

If an older child has a newborn in his family, he can tell the others how the baby is fed and how the mother knows if it is growing well. Let someone else describe an older baby of 6 to 9 months: how big is it? what does it eat? When does it eat and what foods are prepared especially for the baby.

Children can find out how old they and their brothers and sisters were when their mothers stopped

breastfeeding them. They could then work out the average length of breastfeeding in their area and discuss this with a local health worker.

Children can also find out what first foods are fed to babies and the age at which the child first starts to eat the usual family meals.

The health worker or nursing sister can explain to older children what can happen when small children do not have enough of the right mixture of foods.

Understanding good mixtures of foods for feeding small children. They can visit the market and discuss the different kinds of foods, their correct names, the cost, and the best way to prepare the foods for feeding small children. Costing and weighing amounts of foods for a child's meal could be part of the mathematics or science lesson. The teacher can help children decide which foods are the cheapest sources of concentrated energy. Children can learn about many useful plant foods by helping to grow them in a school vegetable garden.

Children can make a poster of a food square to include the low cost foods available in their area and use their food square to make up recipes for good meals for small children.

Understanding that a small child must have at least four or five meals each day. A small child needs to eat about half as much as an adult. To get enough food, if he was only given cereals like maize, cassava, rice or sorghum, he would need to eat between 8 and 12 cupfuls of cooked food each day. This is very bulky.

Older children can cook two cups of dry cereal. Once it is cooked and put on a plate, they can decide if a little brother or sister of two years can eat that much food at one time.

If germinated flour is commonly used in the area. Children can add one spoonful of this flour to a cup of thick porridge and watch the porridge getting thinner.

If a child only has 3 meals a day ... Many children only have 3 meals a day. This is not enough. Snack foods are a good way of increasing the number of times a child eats in a day. Snack foods are quickly prepared and can be carried around with you. Schoolchildren may need help in selecting snackfoods to promote healthy growth without wasting money for example on fizzy (soft) drinks. Good snackfoods include fried beancakes, peanut butter/paste on a biscuit, a handful of roasted groundnuts, a banana or slice of avocado pear.

Understanding how to feed children when they are not well. Children who have fever or other illnesses need more food than children who are well. Ask the older children to talk about a brother or sister who has been ill. Did the child eat less? Did he become thin?

We need to encourage children who are ill to eat and drink as often as possible. Just as soon as the child is better, he will need to eat even more food then usual. When a child is ill, he should have sugar in his drinks and he should drink often. He must be helped when he is too ill to eat and drink (*see* Sheet No. 6.2, **Caring for Children Who Are Sick**).

There are often months in the year when young children have more frequent illness e.g. diarrhoea, chest infection and malaria during and after the rainy season. These months may also be the time when grown up members of the family are very busy in their food gardens and farms. Children can discuss this. They can make a local calendar showing the months when there is most sickness in their young brothers and sisters and also showing the busy times for growing food.

FOLLOW-UP

Have the children understood the idea? Here are some examples of the kind of questions that should be asked:

- What is a good diet?
- Choose two high-energy foods from the following list: peppers, cooking oil, oranges, cassava, wheat, sugar.
- How many meals per day should children between the ages of two and five eat?
- After illness, do children need to eat less, more or the same amount of food?
- A child of two has rice (or millet, or cassava, or plantain or maize) twice each day. How can the child's feeding be improved?
- What is the best food for babies?

It is also important to know that these ideas are having some effect upon the health of children in the community. Two good ways to check up on this are:

- the weight of children under five should increase every month (older children can check the weight of younger brothers and sisters); and
- the arm circumference of children between one and five years should be in the green area when measured with the Shakir strip (*see* Sheet 2.2).

USING THIS SHEET

Some of these activities can be used with younger children, some with older. They can be introduced by **health workers** at the school or clinic, by **teachers**, by **Guide, Scout and other Youth Leaders, and by community and pre-school workers.**

This sheet should be used together with Sheet No 2.2, **Feeding Young Children: How do we know if they are eating enough?** and Sheet No 2.3, **Growing Vegetables.**

FEEDING YOUNG CHILDREN:
How do we know if they are eating enough?

THE IDEA

Children must have enough of the right kind of food for healthy growth and to fight infection

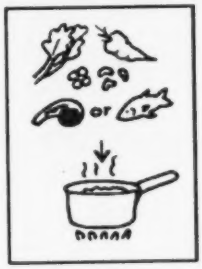
Many children are not getting enough of the right foods. These children can develop normally if they are helped soon enough. There are three simple ways of finding out if an infant or young child is not getting enough good food:

- by knowing how **to recognise the signs** of having too little good food;
- by taking young children **to be weighed regularly** at the clinic;
- by **measuring** the upper arm of children under five years of age.

The young child needs good mixtures of foods for proper growth and development and to fight infection. Meals for young children made from staple foods (e.g. maize) also need bodybuilding supplements, protective

Enough of the Right Foods

Sheet No. 2.1, **Feeding Young Children: Healthy Food**, underlines the importance of feeding babies and young children **enough** of the **right** foods so that they can grow properly and are able to fight disease. At first, a child only needs the mother's milk but after the age of four to six months, babies need other foods as well. By the time they are two-years-old, young children need to be eating about half as much as adults. They can only eat a small amount at any one time, because their stomachs are small. They must therefore be fed small meals four times or more each day.

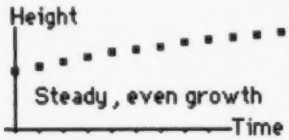


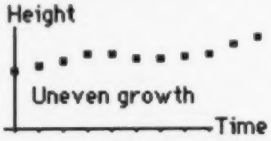
ENOUGH

"Children like chickens should always be pecking!"

Children do science when they

- **Take measurements ...** of their height, weight and upper arm
- **Record them ...** once a month for a year
- **Draw graphs and interpret them ...**





What do pupils observe when they look at the graphs?

- *are they growing higher and heavier ?*
- *is their upper arm large enough?*
- *how much is the increase during the year?*
- *is the increase steady, or uneven? If uneven, why?*
- *are they malnourished?*
- *are they below average for the class? Does it matter?*

supplements and energy-rich supplements. The foodsquare to help choose good mixtures of foods for feeding young children is shown in Activity Sheet 2.1.

Children who do not eat enough of these good mixtures of foods become **malnourished** or **undernourished** and are frequently ill.

When a child is malnourished, it is always **serious**. He is less strong than a healthy child, less active, less interested in things and therefore less able to think and to learn. He is less able to **resist infections**, he becomes ill more often, and he is in danger of becoming **steadily weaker and dying**.

If babies or young children do not eat enough good mixtures of foods and nobody knows how to help them, they will become very ill. These children may look very thin with loose, wrinkled skin, or may look swollen with cracked (broken) and peeling (coming off) skin.

This is why it is very important to recognise babies and young children who are not eating enough from the earliest stage. It is important also to learn how to help them. If these children are well fed, they will grow and develop normally.

Simple Ways to Recognise Children Who Are Not Eating Enough

Learn to look for signs

By looking carefully, we can recognise signs in babies and young children who are not eating enough. Such children will:

- look unhappy and not smile much;
- cry a lot;
- make few sounds or not talk a lot;
- play little and become less active than usual;
- seem quite sleepy;
- get more illnesses;
- stop growing and often lose weight and become thinner;
- eat less than usual because they are not hungry.

What causes a child to be malnourished?

Children who have an illness such as diarrhoea or measles often lose weight because they become weak and less able to eat so that they are not able to eat enough. (Activity Sheet No. 6.2 gives ideas on how to care for children who are sick.)

Children may not eat enough good mixtures of foods because their families are too poor and cannot buy enough of the food supplements. Mothers may not know about good food mixtures. Many mothers are very busy and need help to find time to feed their children frequently.

What Can We Do for Babies and Young Children?

Watch them for **changes in mood:** they may stop smiling, making happy noises or playing.

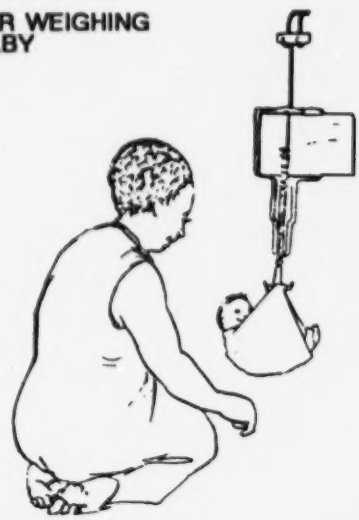
Watch them for **changes in activity:** they may move about less, roll over and crawl less, and want to sleep more. They may not learn to sit up.

Watch them for **changes in appearance:** they may get thinner and look unhappy.

Weigh babies and young children

Up to the age of five, children must be weighed regularly to make sure that they are gaining weight properly. Babies should be weighed each month. The health worker will note the baby's weight gain each time he or she is weighed. If the weight gain is not enough, the baby may be undernourished and need a change in feeding.

MOTHER WEIGHING HER BABY



Some scales for weighing babies (like the one shown in the picture) have a large spring and show the weight on the baby's Road to Health Growth Chart.

Measure the child's arm

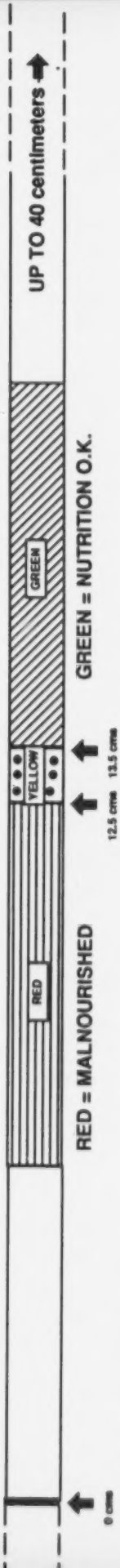
It is very simple to identify undernourished children by measuring around the upper arm, between the shoulder and the elbow, with a special measure called the **Shakir strip**.

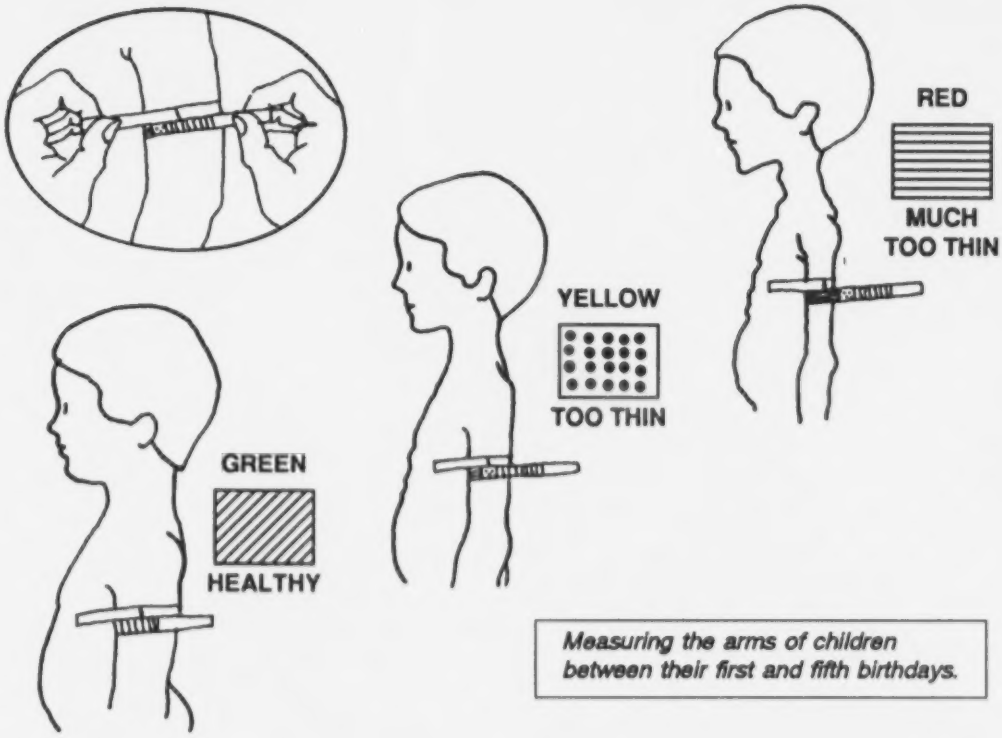
- **Making a Shakir strip**

The strip can be made from strong paper, thick plastic, or a rope, a strip from around a plastic bottle, or fibre from plants. It is important that the material does not stretch and this can be checked by pulling it beside a ruler.

The strip should be about **1 cm wide** and about **40 cm long**.

Whatever material is being used, put a mark near one end (0), then at 5 cm, 12.5 cm, 13.5 cm





Measuring the arms of children between their first and fifth birthdays.

and finally 20 cm from the 0 mark. **It is very important to get the marks at 12.5 cm and 13.5 cm in exactly the right places.**

- **Using the strip**

The measurement around the middle of the upper arm (between the elbow and the shoulder) changes very little between a child's first and fifth birthday. Feel your own arm, that of a five-year-old child and that of an infant about one year old. In the one-year-old, there is more fat than muscle; in the five-year-old, more muscle than fat.

In healthy children, the measurement is more than 13.5 cm. When the strip is put around their arm, the zero (0) mark reaches the green part of the strip. If the zero mark reaches the yellow part, the child is too thin; if it reaches the red part, the child is much too thin and may be undernourished.

ACTIVITIES

Children can discuss. Do they know children who are undernourished? Do they have very swollen bellies? Is their skin dry and cracked? Are their limbs very thin?

Teachers, health workers and Guide or Scout leaders can show drawings or posters of children who are undernourished.

Children can make a Shakir strip. Measure carefully.

Children can learn to use the strip. They can practise measuring around maize cobs, bottles, wooden poles and small trees. In school, they can measure around the arms of their friends. Because they are older than five years, the zero mark should always be in the green part. At home, children can show their mothers how to use the strip on younger brothers and sisters.

Children can find out. They can visit the health worker who can tell them about how much incorrect feeding and undernourishment there is in the community, and about how dangerous it is. The health worker can demonstrate how babies are weighed and checked at the clinic. (Get a sample of the clinic weight card and examine it.)

Children can measure the heights of their younger brothers and sisters. They can mark the heights on a wall at home. If the child's name and the date are written against the mark, the child can be measured six months or a year later. The older children can observe the growth of the younger ones. (Weighing and measuring activities like this can be used for part of the mathematics or science lesson.)

Children can find out how mothers in their community know when their babies are getting thinner. Some mothers put strings around the babies' arms, legs or hips. These strings need changing as the baby grows.

Older children can help mother by feeding their younger brothers and sisters.

Children can pass the message. By stories, songs, plays, puppet theatres, posters and games, children can join the fight for good feeding. They can encourage mothers and other relatives to take babies and young children to the clinic for regular weighing. They can explain the Shakir strip. They can take part in health campaigns, including exhibitions, drama and songs, where they show how to find out if babies are getting enough of the right foods.

Children can help an undernourished child. If they find a child who is undernourished, with a mid-upper arm measurement less than 12.5 cm (i.e. in the red area of the strip), or in danger of becoming malnourished (i.e. between 12.5 and 13.5 cm - in the yellow area of the strip), they can warn parents, the health worker or the teacher. If the child is a younger brother or sister, they can encourage their mother to take the child straight away to the clinic or health worker.

Children can help a smaller brother or sister who is undernourished. Mothers can take small children to the clinic, and older children can go with them. The health worker will give advice about a balanced diet (*see* Activity Sheet 2.1).

The older child can follow up later, at home, by helping mother to feed the child: to make sure that he has enough food, that he is given a number of smaller meals during the day (at least four), and that his diet has as good a mixture of foods as possible. They can help him to eat if he is not hungry (try telling stories).

At family meals, little ones usually eat after the older members of the family. Those who know about malnutrition can make sure that enough food is left for smaller children.

Older children can help with family food production in the garden and in the field, and can raise small animals and birds like rabbits, ducks, chickens and pigeons.

Children can make a play. They can pretend that in a family everyone comes to the table and enjoys the food. The older ones eat quickly and greedily. There is nothing left for the youngest child. He is sad and cries. In a second family, the older children make sure that the younger ones get enough food. The baby is happy and laughs.

FOLLOW-UP

Have the children kept a record of the heights of younger brothers and sisters? Have they accompanied mother to the under-five clinic to see how a baby's weight gain is checked and recorded?

Have the children measured the arms of their brothers and sisters using the Shakir strip? Have they checked any other small children in the school or neighbourhood? How many children did they find with measurements in the green part of the strip? in the yellow part? in the red part? What did they do about it? What difficulties did they find? What did they do about them?

USING THIS SHEET

Everyone in the community must look out for children who are too thin and must try to help. It is not easy to persuade mothers to change the way they feed their children. Their own poverty may make it difficult. This is why as many people as possible in the community must understand and help. There are many things older children can do.

This sheet should be used together with **Feeding Young Children: Healthy Food** (Sheet No. 2.1).

GROWING VEGETABLES

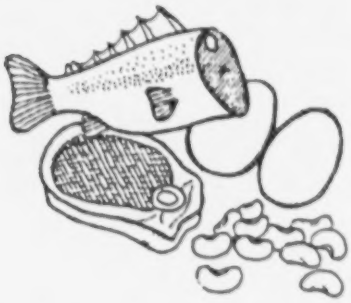
THE IDEA

Vegetables are good for our health. Together with meat, fruit and wild plants, fresh food grown in our garden helps to make us strong and healthy. For healthy minds and bodies, children need to eat different kinds of food each day, including vegetables. Children can improve their own health and that of others by growing a variety of vegetables, at school and at home.

To be healthy, we need to eat good mixtures of foods:

Bodybuilding foods (e.g. beans, peas and other legumes, groundnuts, meat, fish, eggs, milk, insects). Although meat and fish are very rich in protein, we can get enough protein for our needs from plants, like legumes, or milk and eggs.

Protective foods which contain minerals (e.g. iron) or vitamins (e.g. vitamin A, vitamin C). Dark green, leafy vegetables, like spinach are rich in iron and vitamins, and orange and yellow fruits and vegetables like mangoes, tomatoes, berries and carrots, contain many vitamins.

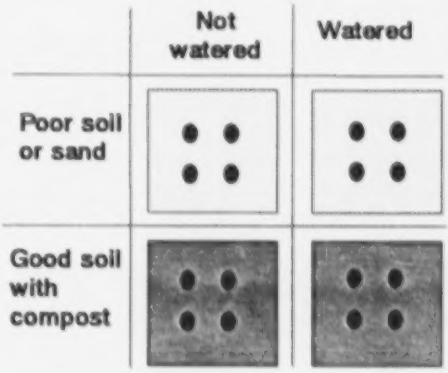


Staple foods (e.g. rice, maize, millet, cassava, potatoes, bananas) and **energy-rich foods** (e.g. oils, fats, sugars, sunflower and sesame seeds, coconut cream, avocado pear).

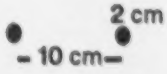
Children do science when they

- **Make predictions ...** 'Beans will need water and good soil to grow well'
- **Investigate ...** to find out if this is correct
- **Control variables ...** heat and seed depth are the same for all
- **Alter other variables ...** water and soil are changed

Seeds can be planted in small garden plots, in boxes or in pots made from plastic bottles. They should have a hole in the bottom. Sprinkle water from a can with holes in the bottom.



Bean seeds 10 cm apart in a square, all 2 cm deep



Although we have grouped foods into energy, bodybuilding and protective foods, remember that some plants, such as beans and other legumes, are very rich in both energy and body-building foods.

Some energy, bodybuilding and protective foods are expensive to buy but alternatives can be grown in gardens and containers (e.g. plant pots, old tins, etc.) quite cheaply, and may be collected from the wild for free.

Grow:

Cereals (e.g. millet, sorghum, rice, maize and wheat), roots and tubers (e.g. potatoes, cassava or manioc) and some fruits (e.g. avocado) - these are energy foods.

Pulses (e.g. peas, beans, lentils) - these are bodybuilding foods.

Dark green, leafy vegetables (e.g. spinach, rape, amaranthus) and some fruits (e.g. tomatoes, pumpkins, oranges, papaya, guava, lemon, pineapple and mango) — these are protective foods.

Collect:

Wild fruits, berries, nuts, seeds, roots, leaves and insects.

Take care, however, and only collect things which are safe to eat. Many people in the village will be able to advise you about the fruits and insects which are poisonous to eat.

Kumar's story

Kumar and his family lived in a shanty town near a big city. Kumar always felt tired and weak and he looked pale. Kumar went to school but he was too tired to work at his lessons and too weak to play with his friends.

Finally Kumar went to see the health worker who told him that he had hookworm which had given him anaemia, a disease which is caused by a lack of iron in the body.

Kumar does not eat meat very often and does not like green vegetables. The health worker treated the hook worm, gave Kumar some iron pills and told him to eat lots of dark green, leafy vegetables to make himself strong. Kumar and his family grew green, leafy vegetables in some tin boxes around the compound. They all ate a handful of these vegetables many times each week and Kumar became stronger and stronger. After six months, he was playing games with his friends. The next year, Kumar was chosen for the football team.

Dark green, leafy vegetables, cereals, legumes and meat contain iron which is needed to make blood in order to prevent anaemia.

Remember that eating foods which contain Vitamin C, e.g. an orange, will help the body absorb the iron from plant foods like dark green, leafy vegetables.

Activities

The children can **visit:**

- Local farms and gardens to find out what vegetables, fruits and cereals are grown there and how many crops a year can be grown of each;
- A local market to find out what crops are sold and where they come from. Why are some sold fresh when others are dried for sale?

They can **find out:**

- Which vegetables or fruits grow well at which time of year;
- Whether or not the price of important foods varies with the time of year.

They can collect a leaf from each of the wild plants growing locally and discuss with the ladies of the community which are the best to eat and why. They can also discuss which are safe to eat and how to prepare them.

Groups of children can **design and display** charts to include all the food plants used within the local community, the ones found at the local farms, gardens and market. They can show which ones are imported from other regions and which grow wild.

The children can answer the question. Many people do not eat meat. How do their bodies grow and stay healthy? The children can discuss the possibility of having enough variety of food when they only eat the food crops grown in their village, town or region.

The children can **plan**, with the help of the local health worker or their teacher, their meals for three days using only locally grown food with no meat. Are there any food crops that we could grow in our gardens to improve our diet and make it more varied and interesting?

The children can discuss the following questions with their friends:

- Which leafy vegetables have you eaten in the last seven days?
- Which of them grow in your country?
- Do any of them not grow in your country?
- Do small children in the family get them?

The children can **find out** if there is a vitamin deficiency in the area and if there are any vegetables or fruits which can be grown to make up this deficiency.

Sangay's story

Sangay lives with his parents in a village high up in the mountains. The family always eats a lot of rice and some meat and Sangay always gets his share but his mother never gave him any green leafy vegetables or any yellow fruit or vegetables. When Sangay was five he found it difficult to see in the evening. This was due to too little vitamin A. His sister who was two had measles. She also had too little vitamin A in her diet and due to the lack of Vitamin A and the measles, she went blind.

Green leafy vegetables and yellow fruit contain Vitamin A which helps to keep our eyes healthy. Sangay's sister went blind because she ate too little Vitamin A.

The children can work with the health worker and find out how many people suffer from blindness and anaemia (ask the health worker how to recognise the symptoms of anaemia) in the community. They can ask questions such as:

- At what age did the person go blind or were they born blind?
- Why did they go blind?
- Are they blind in one or both eyes?
- Is anyone in their family suffering from anaemia?
- Do they eat dark green, leafy vegetables? If so, which and how often?
- Do they eat red and yellow fruits? If so, which and how often?

Growing good food is fun

It is exciting to plan a garden, to decide which plants to grow and to learn how to grow them. It is very satisfying, and healthy too, to eat your very own fruit and vegetables.

BUT to make a garden is a lot of work, so get it right from the start. Invite agricultural extension workers, local farmers, teachers, parents and friends to give advice on how to plan your garden and the best way to grow food plants in your area. If enough people are interested, you could plan a community garden.

MAKING THE GARDEN

Follow these steps:

1. The place
Answer these questions before you decide where to put the garden:

- Do you have flat or slightly sloping land?
- Do you have soil which is well-drained, deep and fertile?
- What kind of soil do you have? Is it loam, sandy or clay? This will affect the water content of the soil and how it is watered.
- Do you have enough water from a nearby stream, river or well? Plants need water regularly.
- Do you have land which has at least six hours of sunshine each day?
- Do you have land free from large trees and rocks?
- Do you need a fence to keep out goats, cattle, chickens, other animals and people?
- Do you need a place for your garden which is near your house or school, so that it can be easily looked after?

(If you live in a windy place then your garden will need shelter. If you live in a place where it rains throughout the year, then another source of water is not so important.)

2. The plan
Here you are, at work in your garden. Draw a map to show: the water source, the fence and nearest buildings. As you move through steps 2 - 6, you can add to your map the seed bed, pathways, the rows of vegetables, the crop areas, fruit trees, compost heap and tool store, etc.

Ask as many people as possible for advice so that you can decide which are the best food crops to grow. Find out what are the traditional crops grown locally? What are the traditional patterns of cropping? Why? Try to grow crops from each food group. For example the garden can include maize and sweet potatoes (staple), groundnuts (energy) and beans (bodybuilding), pumpkins, carrots and spinach (protective). Perhaps each group of children can grow some easy and some difficult crops. Crops like pumpkins can be planted a few at a time so that they are not all harvested at once. The planting of the crops can be planned for year-round production taking seasonal changes into account and times such as the school holidays.

3. The garden

Prepare the garden. If you are using a seedbed this can be done, while the seedlings are growing:

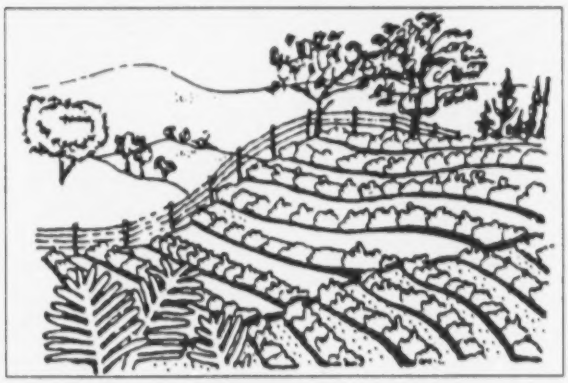
- Clear the weeds;
- Dig over the soil, add compost or manure (animal waste);
- Mark out the pathways and rows for the vegetables.

Children, did you find out about and make the local kind of fencing to protect the garden from animals? What local methods are used to protect seeds and seedlings from birds and other garden pests?

Make sure that there is a good water supply to the garden or all the work may be wasted.

4. The seedbed

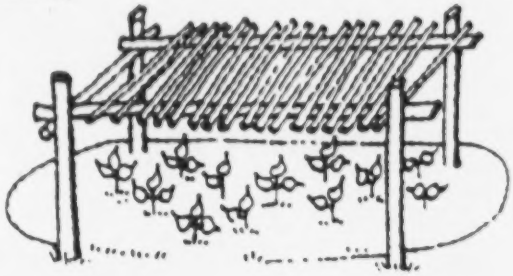
Having found out where to get the best seeds locally (USE local seeds where possible) and which of these



seeds need to be planted in seedbeds (tomatoes, cabbage, aubergine and peppers, for example), the preparation can begin.

Seeds can be started in boxes or trays, but seedbeds are the cheapest and work just as well. Carefully prepare fine soil which has been mixed with local compost and well-watered. Use the local method of shading seedlings from the sun which will dry them up. Find out how often the seedlings need to be watered as they grow and the best time of day to do it. It is important to avoid watering when it is very hot as the water will evaporate but the water should not be allowed to rot the plants. Find out how long they need to stay in the seedbed before transplanting?

This is a good time to study how seeds grow into plants in Biology!



5. Transplanting

What advice did you get on the way to move small plants from the seedbed into the garden, i.e. transplanting?

Newly transplanted seedlings may be temporarily shaded with grass or leafy twigs.

Children should first find out the local spacing of plants, both in and between rows. Young plants will need both water and shade immediately.

6. Direct sowing and planting

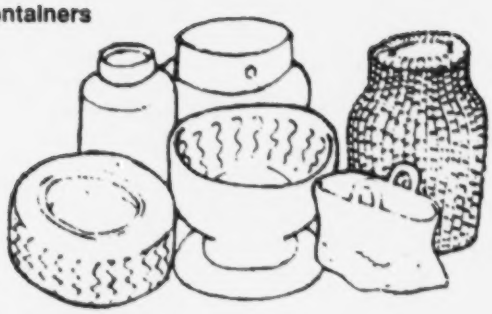
Sow the seeds of spinach, carrots and groundnuts, beans and maize in the garden soil where they are to grow. The larger the seed the deeper it must be buried in the soil.

Children should remember the advice given on planting depth and distances. What did the agricultural extension officer have to say about the growing of crops like sweet potatoes from both their root tubers and stem cuttings? What are the traditional methods of planting local varieties of sweet potato?

Did you remember to put these on your map - seedbed, pathways, named rows of vegetables and crop areas?

Let the children ask the agricultural extension officer about crop rotation. What are the advantages of crop rotation and which crops should follow which in the vegetable garden?

7. Containers



Many plants, like tomatoes, can grow very well in plant pots, old tins or other containers. The children can collect containers, have holes knocked in the bottom of them and broken pot or stones added for drainage. Soil and compost should be placed in the container and as long as it is big enough for the plant, and the plant is taken care of, it should grow very well there.

8. Pest control

The children need to watch out for pests (insects, moths, larvae, slugs, snails, locusts, etc.). An important way of protecting against harmful pests is to make sure the plants are healthy. Some gardeners use poison to kill pests but others do not want poisons on their plants so they pick them off by hand (give them to the chickens), wash them away with soapy water or plant flowers like marigolds amongst their vegetables. What other methods for preventing insects and disease are used locally? The children can try to guess what it is about marigolds that the pests do not like.

Remember, not all insects are pests. A single toad can eat at least 10,000 insects in one season. Earthworms are very important for the fertilization of the soil. Many useful insects help the gardener by pollinating plants and eating harmful insects and other pests, so find out which local insects are your friends and KNOW YOUR ENEMIES!

The children can now discuss the question - What are the most important things needed for strong and healthy plant growth?

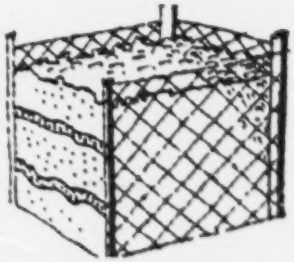
This would also be a good time to introduce the study of some insects and other garden animals in the Biology lesson!

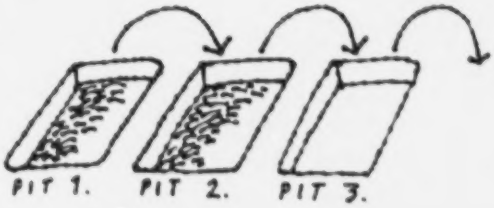
9. Food, light, space and water

Plants take their food and water out of the soil through their roots. Plant food can be added to the soil as manure (animal waste), compost (decayed leaves, weeds, kitchen waste, wood ash) and fertilizer (chemicals, which are usually made in a factory).

Children can find out about the plant foods used on local farms and gardens. Where do farmers and gardeners get them from?

Children can compare the growth of one seedling in a pot of garden soil mixed with compost with the growth of another grown in sand with no compost. Water the seedlings and see how they grow. What happens to the two plants and why?



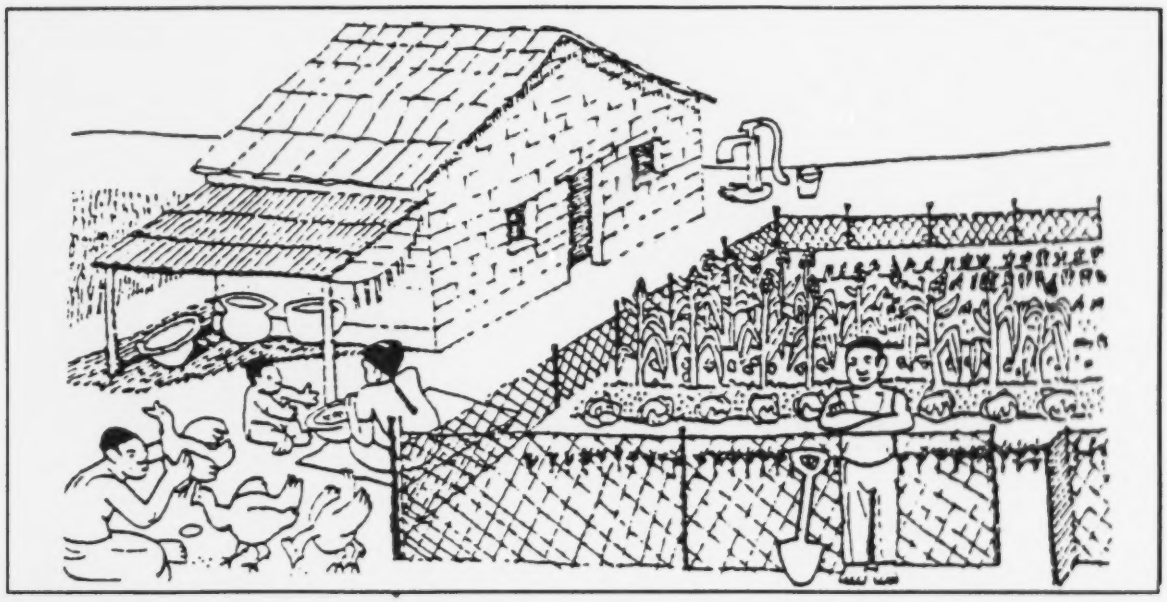


Children can discuss what they think would happen to themselves if they, like one of these plants, went without food for one month.

Although young seedlings have to be protected from strong sunlight, green plants generally need light to live and too much shade is not good for them. Remember that plants, like people, do not like to be overcrowded. If plants do not get enough food, light and water, they do not grow well and become sick and may die.

Mulching is placing fertiliser on the ground around plants. Is mulching used by local people? How does it help to keep the water in the soil?

Water from washing and bathing is useful for plants grown outside the home. Water, good soil, sunshine and open space all combine together to give ideal growing conditions for many plants.



Children can design their own experiment to compare the growth of plants in wet soil with the growth of plants in dry soil. Do the experiment and explain what happens.

Plants, like people, need space, light, food and water to grow well, but they also need to be anchored in the soil. The roots, as they grow down in search of food, air and water, hold the plant firmly in the soil. The leafy stems are able to grow up to the light without the plant falling over.

Plants need looking after - Care for your plant daily:

- Water regularly, give a cool drink;
- Remove weeds, give space and light;
- Keep 'thinned' out, give more space;
- Put compost or mulch around them, give food and save water;
- Look for pests and diseases. Give them protection, ask the agricultural extension worker for help.

The children can design a chart to compare the daily care of young children and plants which are to grow up strong and healthy.

Remember garden tools need to be kept clean and carried carefully to avoid accidents!

10. Picking the crops

The best part - your plants are ready to eat. Harvest them!

Some crops, like tomatoes, can be picked just before they are ripe. You are then sure to harvest them before the thief! Most fruits continue to ripen after they have been picked. Investigate how each crop is picked and how they are treated after picking. How are they traditionally stored? The extension worker should know the best methods of storage. This is very important as it allows the food to be eaten throughout the year.

Remember!

Grow crops in containers for fun, decoration and food!

Grow a fun plant, sugar cane, bananas, coffee, paw-paw, etc.

Grow a selection of herbs for use in cooking, perfumes, medicine.

The children can plan a menu for the day and cook a 'balanced meal' from the food grown.

Follow-up

Children can be asked, after several months, to discuss with the other children what they have done in their gardens and what they would like to do next.

A competition can be organised to judge the best school garden, house garden, plants in containers or vegetables.

A display can be mounted of the vegetables and fruit grown. Plant and develop more gardens.

Celebrate a harvest festival!

Using this sheet

Some of these activities can be used with younger children, some with older. They can be introduced by agricultural extension workers at a school or clinic, by teachers, by guides, scouts or other youth leaders and by community or preschool workers.

This sheet should be used together with Activity Sheets No 2.1, **Feeding Young Children: Healthy Food** and 2.2, **Feeding Young Children: How do we know if they are eating enough?**

OUR TEETH

THE IDEA

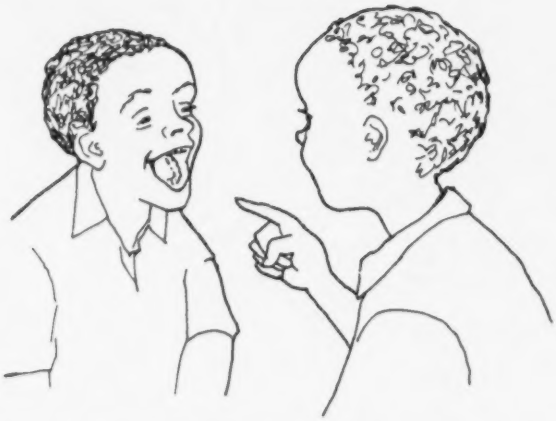
Each person gets two sets of teeth. The second set are permanent teeth and must last for a whole lifetime. If we let them get rotten, or if our gums are diseased, we can suffer much pain and may lose our teeth. We can prevent tooth decay and gum disease by taking less sugary food and drink. We should also clean our teeth carefully several times each day.

Why do we need teeth?

We need teeth for:

- biting and chewing our food;
- smiling and looking good: a person with shining whole teeth looks happy and attractive.

Having good healthy teeth allows people to eat a wide variety of foods. We have two different kinds of teeth because our teeth have two main tasks - biting and chewing. Our front teeth are for biting food and the back ones are for chewing it. Good teeth can give pleasure as we bite into foods.



Clean, strong and shining teeth make you look attractive and help you to speak clearly.

Children should understand that they get two sets of teeth in their life. The first set begins to fall out between the ages of five and eight years. The second set is their last set, and they will get no more! It is important to look after both sets very carefully.

Children do science when they

- **Classify teeth ...** according to shape and use e.g. cutters, crushers, stabbers
- **Record ...** how many children in a class:
  have no bad teeth
  one bad tooth
  three bad teeth, etc.
- **Observe ...** how much food can be left in the mouth after a meal

  Eat a meal. Half fill a glass or cup with drinking water. Rinse your mouth with the water and spit it into the cup. Look at the food you have removed. Can you wash out more? What kinds of food can you see? Is anything left in your mouth? Can you remove this with a brush or a chewed stick?
- **Hypothesise ...** suggest why salt can be used to clean teeth, but not sand or charcoal

  Let children rub these substances on flat glass.
  Which can scratch the glass?
  Some things scratch tooth enamel. This lets in bacteria. Teeth can then rot. Sand and charcoal can be too hard. Salt is not hard. It does not scratch.

What happens when teeth go rotten?

Some children's teeth decay. They get brown and black holes which look ugly. The holes are small at first, but if they are not filled by a dental worker, they turn into big holes which can hurt. These children often have toothache, bad breath and may even have a boil or abscess in the gums surrounding the teeth. The teeth may be so rotten that they must be taken out. It then becomes difficult to bite or chew food.

What makes teeth go rotten?

Teeth get holes when we eat too many sweet foods, fizzy drinks or too much sugar. Food which contains sugar is especially harmful when we eat it between meals, as a snack.

What makes gums diseased?

The gums cover the jaw around the teeth. When teeth and gums are not cleaned properly, something called plaque forms around them. Germs live in the plaque and make our gums sore and unhealthy.

How can we look after our teeth?

Children should understand the importance of caring for their teeth. They should brush their teeth every day with a brush or a brushstick. They should not eat too much sugar, sweet food or fizzy drinks which may rot teeth. Remember too, for young babies, mother's milk is best for building healthy teeth from the start.

How best can we look after our gums?

If the gums are diseased the teeth can become loose and later drop out. So children should keep their gums healthy by cleaning teeth and gums properly to get rid of plaque. Germs in the plaque can make the gums soft and they may bleed. If the gums bleed, they are not being cleaned properly.

Remember!
Healthy gums do not bleed!

ACTIVITIES

Children can observe

Children can look at the teeth of:

- their younger brothers and sisters;
- older children;
- babies;
- children of the same age;
- adults including older people.

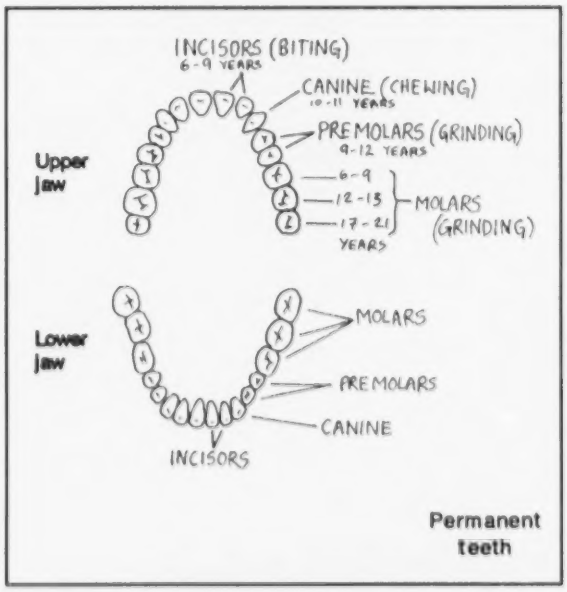
Encourage them to count the number of teeth in a person's mouth.

- Do all children have the same number of teeth?
- How many teeth do babies have when they are born? (They usually have none.)
- When do the first teeth usually appear in most babies? (They usually appear at about 3-4 months.)
- How many do they have when they are two years old? (Most children have about twenty 'milk' teeth when they are two.)
- When do the first set of teeth start to fall out? (Permanent teeth begin to appear at about the age of six, and push out the milk teeth.)
- What is the greatest number of teeth in a mouth? (An adult has 32 permanent teeth.)

While the children are looking at teeth, do they notice that some teeth are black? Do they notice that some teeth have holes in them? Such teeth have decay. They are rotting. Have any holes been filled by the dental worker? What do they look like? What are they filled with? Have they talked to any older people who have lost many teeth?

Children can keep a record

How many children brush their teeth, how often, when, how? Who has lost a tooth? Why? Who has had a filling in a tooth? Keep a record for several months, for each child.



Do children recognise that there are different kinds of teeth? What other things do they notice? They could make drawings to show the number and arrangements of teeth in the top and bottom jaws.

Children can experiment

A lot of sweet food, like cakes, fizzy drinks and sweets, is not good for teeth. Here is a simple experiment.

Find two teeth (use teeth from children whose first set is falling out). Drop one in a fizzy drink and the other in water. Leave them for about two weeks. The tooth in the fizzy drink gets soft and you can scrape some of it off with a sharp instrument. The tooth in the water does not get soft.

Children can discuss

At school, the observations of children can be discussed and recorded. Children should be able to say why teeth are important. Can they imagine what it is like to have no teeth? What problems has a person with no teeth?

Discuss the different kinds of teeth. Children can find the jobs of the different teeth (biting or chewing).

Children can bring teeth of different animals to school. Children can look for the skulls of dead animals. Are the teeth of animals different? How are they different? Why are they different? (Do the children understand that some animals, like dogs, eat meat, while other animals, like cows, eat grass. Sharp teeth are for biting and chewing. Short, flat teeth are for grinding and chewing.)

Which animals have sharp teeth? (Dogs and cats, mice and rats will have some very sharp teeth for biting things.) Which ones have more grinding teeth? (Cows, goats and sheep, which chew a lot of grass, have large flat molars for grinding up the food.)

Have they noticed gaps in some children's mouths? Has the first set of teeth fallen out? How many teeth have fallen out?

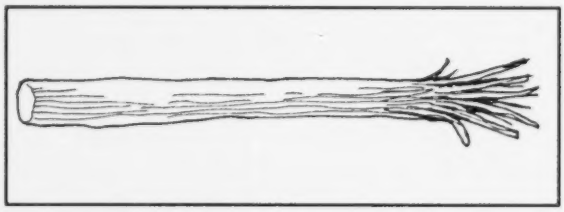
Did they notice holes in some teeth? Has the hole been filled by a dental worker? Can they suggest a local pain killer to put on a rotting tooth, or on the gum near it, to stop the pain? This does not stop the tooth from rotting.

The children can discuss why they think it is necessary to brush teeth every day. They could also say when they think teeth should be brushed. (They should be brushed at the same time as the children wash their faces, that is, in the morning and last thing at night before going to sleep.)

Ask if any children have smaller baby brothers and sisters who are bottle fed. Sometimes older brothers and sisters give sugary water in a bottle to the baby. This is not good for the teeth because the sugar in the liquid rots the teeth when the baby sucks the bottle. Children should understand that mother's milk is the best food for building strong and healthy teeth.

Children can make and use a brushstick

Each child can make a brushstick, which looks like this:



- use the twig of a tree; is there any tree used locally which is especially good for making brushsticks?
- chew on one end of the twig and use the fibres as a brush.

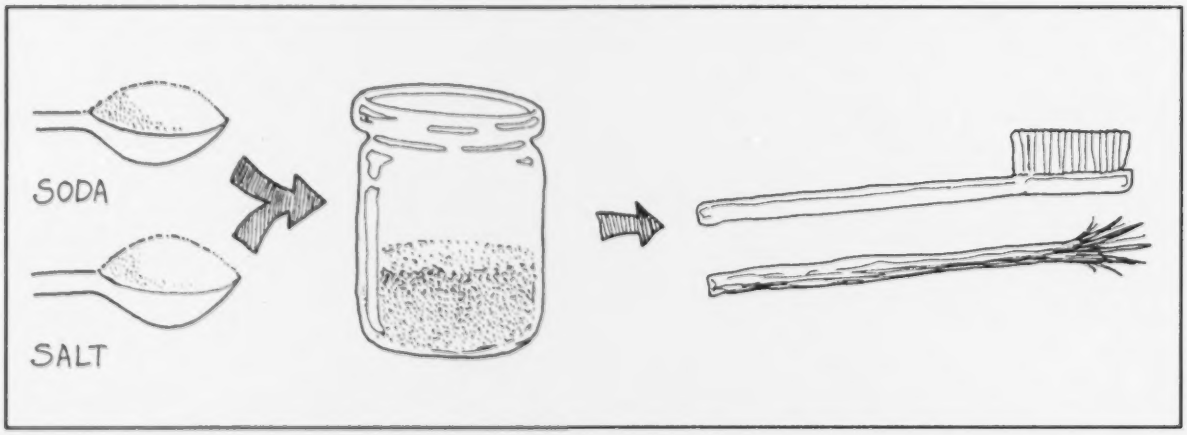
Tooth brushes can be used if they are available. Practise using the stick or toothbrush. It must clean all the surfaces of the teeth and the children should brush from side to side.

The children can bring their brushsticks or toothbrushes to school each day and brush their teeth together before class.

They can make a brushstick for a younger brother or sister at home and teach them how to brush their teeth well.

Children can make 'toothpaste'

The children can learn to make a kind of toothpaste or toothpowder, by mixing salt and bicarbonate of soda (from the chemist or market) in equal amounts. Just



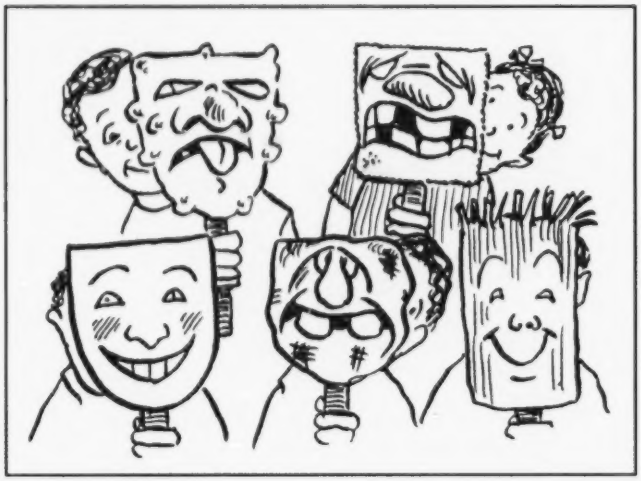
plain salt can also be used to clean teeth. To make it stick, wet the brush or stick before putting it in the powder.

In some areas, fluoride is put in the community's drinking water so that everyone will have stronger teeth. Fluoride toothpaste should be used if available. The children should discuss this with the health worker.

Children can make a play

The children can do a sketch or puppet play about their teeth. The characters could be as follows:

Jimmy Germ (the gum thief);
Simon Sugar (a rotter);
Sammy Molar (a good but rather stupid man);
Mr Dental Worker and Ms Brushstick (two good, helpful people who stop Jimmy Germ and Simon Sugar from attacking Sammy Molar);
Fred the Farmer (who grows fresh food).



Here is an outline plot which can be developed by teachers and children.

1. Sammy Molar tells Mr Dental Worker what it is like to be a tooth. He says how frightened he is of Jimmy Germ and Simon Sugar.
2. Jimmy Germ and Simon Sugar appear and tell the audience how they plan to rot Simon Molar and make his gums so weak he will fall out.
3. Mr Dental Worker and Ms Brushstick discuss how to stop them from attacking Sammy Molar.
4. Sammy Molar gets covered in sweet food by Simon Sugar. Sammy Molar starts to go bad. Jimmy Germ attacks his gums. Sammy cannot stand up well.
5. Sammy Molar describes his problems to Mr Dental Worker who explains the importance of not eating too much sweet food and cleaning his teeth.
6. Mr Dental Worker introduces Sammy to Fred the Farmer. He tells Sammy about foods that will not hurt him. Simon Sugar is very angry.
7. Sammy then visits Ms Brushstick who drives out Jimmy Germ.
8. Simon and Jimmy quarrel and blame each other.

Children can make a check list of good tooth care. They can make a list of do's and don'ts for looking after teeth and gums. This list might include the following:

DO

- Brush our teeth and gums every day
- Brush our teeth before going to bed
- Eat healthy food
- Teach younger brothers and sisters to brush their teeth
- Have a brush or brushstick for each person in the family

and so on...

DON'T

- Let our teeth rot
- Forget to brush our teeth
- Drink sugary drinks
- Eat many sweets or a lot of sugar
- Use broken sticks, charcoal or other hard materials for cleaning teeth

and so on...

FOLLOW-UP

The check list suggested above will test how much the children understand about caring for their teeth.

It is important to know whether they are looking after their teeth better. This may be clear if records are kept of the children's toothbrushing habits over a period, of say, six months. The results could be compared to see if there have been any improvements.

USING THIS SHEET

The idea of strong, clean and healthy teeth can be introduced to children by a number of people:

- by dental workers during a visit to a school;
- by teachers at various levels of primary school - teeth are a good topic for work in health and/or science lessons;
- by Scout, Guide, community and health workers in out-of-school groups;
- by a drama group or puppet theatre in a short drama or puppet play.

LOOKING AFTER OUR EYES

THE IDEA

Eyes may become sore, infected or even blind if we do not care for them. This means keeping eyes and faces clean and free from flies, eating foods that are rich in Vitamin A, and looking after eyes which have become infected or are threatened by disease.

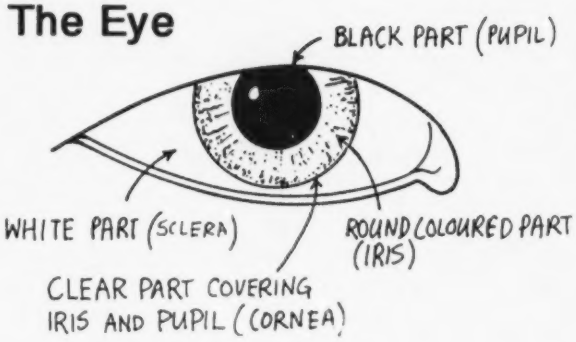
Sight is important because we use our eyes for almost everything we do. Sometimes, eyes cannot do their job because they are not properly looked after. Many eye problems are caused by:

- dirty faces which attract flies and germs;
- not eating enough food with Vitamin A;
- a disease which can make us blind.

There are three ways to keep our eyes healthy and to prevent eye infections and perhaps blindness:

- keep eyes and faces clean and free from flies;
- eat food which is rich in Vitamin A;
- look after eyes which are infected or diseased.

The Eye



If you look at an eye, you will see:

- the round, coloured part (iris);
- the black, centre part (pupil);
- the clear part (cornea) which covers the iris and pupil;
- the white part (sclera).

The pupil lets in light, like a window, so that we can see. The eyelid helps to protect the eye itself, and keeps out light when we sleep. Tears, carried by the eyelid across the eye, wash away dirt and help to keep our eyes clean. That is why we blink. Eyelashes help to keep out dust, dirt and flies.

If an eye is healthy, the white part is clear, and the eye seems to shine.

Children do science when they

- **Observe ...** how eyes behave, e.g.

  Count how many times a minute an eye blinks.
  Find out if both eyes blink at the same time.

- **Hypothesise ...** Suggest why eyes blink.
  Eyes blink to protect themselves from dust or anything else which could enter the eye. Blinking closes the eye, helps to remove dust, and keeps the eye wet.

  Suggest why eyes run with tears when you peel onions.
  Chemicals in onion juice irritate the eye. Tears wash the chemicals away.

  Suggest why the pupils are wide open in the dark, but small in the light.
  The open pupil lets in more light. This helps when there is very little light to see things. When a light is very bright, the pupil closes. Too much light can irritate or damage the eye. (This hypothesis can be tested - see Activities overleaf.)

  Do not reject your children's ideas if they are different. They may be correct as well. Let them think about how they could test their ideas, or support them using their observations.

Keeping Eyes Clean

Washing the Face and Eyes

Children should wash their faces and around their eyes every day, in order to keep eyes healthy and free of infection. Even if there is not much water, one cup of water for each child to wash is enough. If there is enough water for cattle and for cooking, there should be a cupful for the face. Water can be collected from the well or water-hole, or, if it rains, from the roof (a banana leaf draining into a bucket will catch enough)

After washing the eyes, it is better not to dry them. Towels, cloths and clothes may carry germs and infection to the eyes.

Keeping Flies Away

It is very important to keep flies away from the face and eyes. Flies like to feed on dirty eyes and will carry germs into the eye which can cause infection.

It is difficult for babies and younger children to keep flies away from their eyes. Older children can:

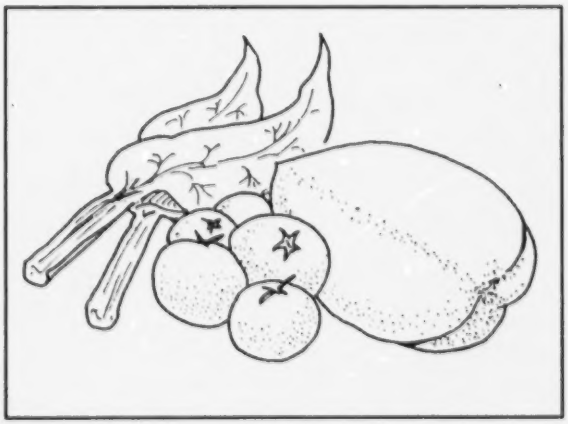
- wash young ones' faces and eyes;
- keep animals which bring flies away from the house as much as possible;
- bury rubbish and faeces and dirty things that flies walk on.

Eating Good Food

Young children may become blind if they do not eat enough foods which have plenty of Vitamin A. The first danger sign is when a child cannot see as well as healthy children in the dark (night blindness). If they still do not get food rich in Vitamin A, the cornea may become cloudy and scarred, causing complete blindness.

Such blindness can be prevented by regularly eating certain foods with plenty of Vitamin A, such as:

- **dark green** leafy vegetables (e.g. spinach);
- **red and yellow** coloured fruits and vegetables (e.g. tomatoes, carrots and paw-paw);
- **red** palm oil.



Diseases Causing Blindness

Blindness can be the result of a disease.

Measles. A well-nourished child can fight diseases such as measles which cause blindness (*see* Sheet No. 2.1, **Feeding Young Children: Healthy Food**). If a baby has measles it may feel more comfortable in a dark place for a few days. Feed the baby carefully with food that has plenty of Vitamin A, and comfort it. Better still, get a Vitamin A capsule from the health worker, as soon as you know it is measles. Watch the eyes. If they become sore with redness and pus, the child should be taken to the health worker.

Remember: It is easier to prevent measles. Get immunisation for the baby.

Trachoma is an eye disease spread by flies and direct contact. It can be treated with the right ointment, but the easiest way to prevent blindness from trachoma is to keep children's eyes clean. Wash carefully and often. Keep flies away.

Remember: Complications of trachoma can cause blindness. Help to prevent it when the child is young. Get medical help as quickly as possible to stop the eye going blind.

River Blindness is caused by tiny worms, spread by small black flies that bite. In areas where river blindness is a problem, there is little children can do directly. In these areas, there will be local health programmes to fight the disease, and children should know about them.

Eye Infections

Keeping eyes and faces clean helps to stop infections of the eye which might be dangerous. What can children do if their eyes do become infected?

- If something like a bit of dirt or sand enters the eye, do not leave it there. Infection and permanent damage may result later. Do not rub the eye. Visit the health worker to check for damage and to make sure that the dirt is out.
- If the eyes are red or sticky with pus, or swollen, clean them very carefully. Use a small piece of clean cloth and burn or bury it afterwards. Or use a clean finger, but always wash your hands immediately afterwards. Eye infection can easily be spread to others.
- If the eye is red, sticky or swollen, go to the local health worker or drug store as soon as possible. An ointment may be necessary. Take care when putting the ointment on. Ask advice about how to do this.
- If there is a little painful red lump on the edge of the eyelid, this may be a stye. Styes are not dangerous but can be very painful. Bathing with warm clean water can help ease the pain.

Blindness

If we do not prevent infections, fight diseases which can cause blindness and eat a healthy balanced diet, we may become blind ourselves. Some children are born blind. Others' eyes are blinded by accident, infection, disease, or poor diet.

We know that a person is blind if they cannot count fingers held three metres away from their eyes. That person will probably need help, and there are many ways in which children can be useful.

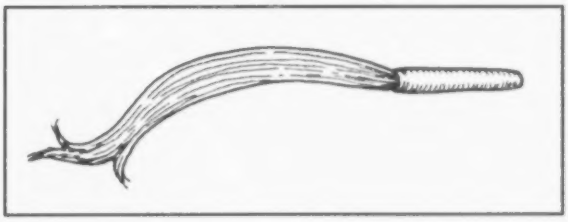
ACTIVITIES

Observing how the eye works. Stand in a room with sunlight coming in. (Don't ever look DIRECTLY at the sun.) One child can shade one eye with a piece of card. Another child can observe the size of the eye's pupil when it is in shadow. The first child can then remove the card quickly so that his friend can see how the size of the pupil changes when it comes into the sunlight. In this way, children can observe how the pupil lets light into the eye and helps us see.

Children can look at each other's eyes and draw what they see. They should notice and label the three main parts of the eye.

Ask the children to notice how a healthy eye looks. Is the white part clear? Does the eye shine?

Getting rid of flies. Children can do many things to fight flies. First, they can find out where the flies come from. They can draw a plan of an area in the community and mark where the flies gather. Do they notice that they gather near animals? They can help to keep animals away from the house, wherever possible. They should also notice that excreta and rubbish attract flies. Encourage children to bury these.



Older children can compose songs and rhymes using a theme such as:

Brush the flies
From babies eyes.
Keep them away,
Don't let them stay!

They can also make fly swats for use at home using palm leaves, bamboo and other local material.

Older children can help children who are already blind by finding out where they live in the community. Does anyone help them? Older children can help to guide them to school. They can read them books, talk to them, help them to learn and include them in games and activities as often as possible. They can find out whether there are local facilities for the blind or for those who can only see a little. Do mobile eye clinics visit their area?

Children can help most of all
by keeping eyes clean.

Keeping eyes clean. Older children can help younger ones at home to wash their faces and eyes every day. Help to collect water which is needed for washing the face and eyes. Each child should have clean water. Why? Remember not to use a cloth or towel for drying the eyes. Why not?

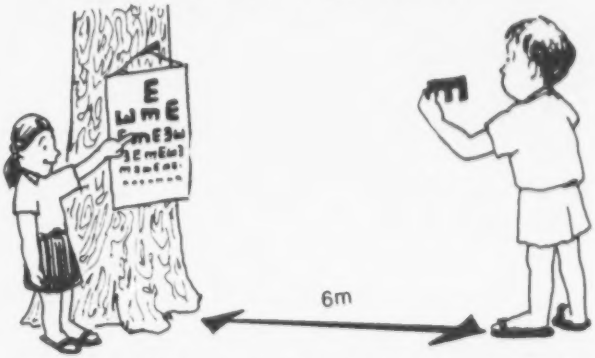
Older children can work in pairs and inspect each other's eyes every day. Have they washed their faces and eyes - the faces and eyes of younger brothers and sisters at home?

Getting enough Vitamin A. Children can learn to identify local foods that are rich in Vitamin A. Such foods can help to prevent blindness. Draw colourful charts, pictures and posters of these foods. Collect and show local 'spinach-type' foods, or other dark green, leafy vegetables. Say which foods eaten at home contain Vitamin A. Are they eaten regularly?

Teachers and extension workers can help children to make a garden to grow some of these plants. Older children can grow some near their home. Waste water from cooking and washing can be used to water these plants if rain is scarce.

Checking children's eyesight. Older children can help to make an eye chart like this:

Each child can make an 'E' shape of the right measurement and glue it onto the chart. It is very important to give each 'E' the correct shape. It should be black on a light background and each 'leg' of the 'E' should be the same size and the same size as the spaces between the 'legs'. The teacher can make a stencil to get the right size. The children can then make another 'E' out of cardboard or other stiff material. First let the children test each other. Hang the chart where the light is good. Make a line on the ground, six metres from the chart. The child being tested stands behind this line with the large cardboard 'E'. Another child points to the different shapes on the chart. The child should point to the larger letters first and then to smaller and smaller letters. The child being tested must hold up his 'E' in the same direction as the one being pointed to by his friend.



When the children know how to give the test, help them think of ways to give the test to young children especially those who will soon be going to school. At school, the children in higher grades can test the sight of those in the lower grades.

It is very important that children who see and hear well always play with those who do not.

Understanding what it is like to be blind. One child can tie a cloth around the eyes of another. The second child can try to move around without being able to use his eyes. The first child can help him. Several objects can be put in a deep bag. Children can place their hands inside and try to tell what the objects are without being able to see them. Try to work with a blindfold over the face.

Children can find out if there are blind people in the community. Find out if there is a special school or an eye clinic nearby. Children can find out what caused the blindness by asking when the person became blind. A health worker can also help with information.

Perhaps the children can identify:

- a person who has been blind from birth;
- a person who became blind in the first few weeks of life (possibly because of an infection from the mother);
- a child who became blind between one and six years of age (perhaps because of lack of Vitamin A, measles or a severe infection);
- a person who became blind as an adult (perhaps because of trachoma or river blindness);
- an older person who is blind because cataracts are covering the pupil of the eye.

Children could make a chart to show some common local problems and put it up in the classroom and the local clinic.

NOT ALL CHILDREN HAVE THE SAME DIFFICULTIES

FOLLOW-UP

Children can keep records to show that they have inspected their brothers' and sisters' eyes each day and helped them to wash.

Each child could write a story about helping another with an infected eye or poor eyesight. Or they could make a play - let one child act having measles and the others can mime or describe what they did to help.

A competition can be held to draw a clear map showing where flies live locally.

Each class in a school could keep a record of numbers of children with eye problems. Do the problems get less when children are older and cleaner?

Ask the children if they know any children who cannot see well. Are they doing anything to help? What are they doing?

USING THIS SHEET

The health of children's eyes is of concern to everyone in the community. Many people can help:

- teachers can introduce ideas for eye care in health and science lessons;
- health workers can demonstrate good hygiene and talk about eye care programmes;
- women's groups, youth groups and political groups can help to mount education programmes;
- organisers of local campaigns against river blindness;
- community workers who help people who are already blind;
- older children can tell younger ones about eyes, and why they must be clean, how they can wash their eyes, and how they can kill flies;
- Scouts, Guides, children's groups and youth groups can carry out projects in cooperation with adults which will help to improve the health of eyes in the community.

Children can tell teachers, parents or other relatives about friends who have weak eyesight and make sure that they include them in their games.

CHILDREN'S STOOLS AND HYGIENE

THE IDEA

Diarrhoea, typhoid, cholera, polio and some other diseases are caused by germs present in stools. These germs can pass from one person to another on the hands, in dust, in food and drinks, and on flies. Getting rid of stools in a safe way, and washing after defaecation and before eating can help prevent the spread of these diseases.

Diarrhoea is Dangerous

Children have diarrhoea when they pass frequent, watery stools. They may also vomit and have a swollen belly with cramps. Diarrhoea is caused by germs which live in dust, stale food, dirty water, and human stools. Through the diarrhoea, the body tries to 'wash out' the bad germs.

Diarrhoea is a frequent cause of death in young children. They die from **dehydration** when they lose large amounts of fluid (water and salt) from their bodies because of the diarrhoea and this is not replaced.

How to tell when a child is dehydrated and how to prepare a **Special Drink** to replace fluids lost is described in Sheet No. 6.1, **Caring for Children with Diarrhoea**. Diarrhoea can often be prevented by proper feeding (see Sheet No. 2.1, **Feeding Young Children: Healthy Food**). But the most important way we can help to prevent diarrhoea and other dangerous diseases is by keeping ourselves, and the places where we live and play, clean.

Stools are Dangerous

Many people know that stools are dirty, but they may not know that the germs in stools can cause diseases. Diarrhoea, worms, cholera, typhoid and polio are spread when germs are passed from our stools to hands and clothes, to the water we drink and the food we eat, making us ill.

By being careful when we pass stools, by keeping our hands and bodies clean after a bowel movement, and by cleaning up any stools which are dropped in places where we live and play, we can help to prevent the germs that cause these diseases from spreading. Animal stools are also dangerous.

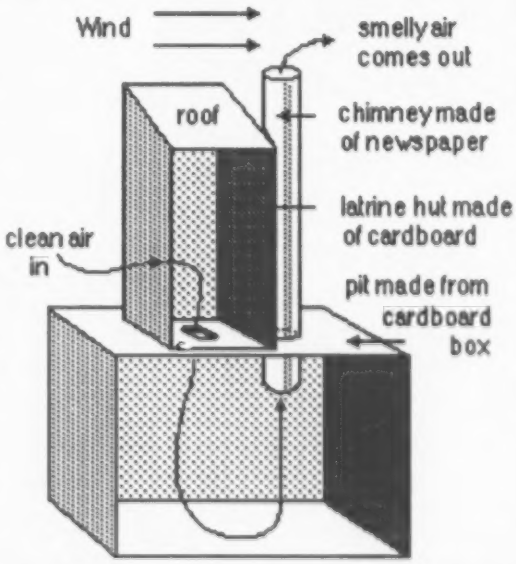
Children do science when they

- **Make models ...** and use them to understand how things work and how they might be improved.

  Pupils can make a model of a Blair latrine. This has a chimney. When wind blows across the chimney, air is pulled through the latrine as shown. This stops smells from the latrine coming up through the hole in the floor. Flies are not attracted into the latrine through the door. A gauze or net over the chimney can keep them out of it.

- **Answer questions ...** Do flies like light or dark places?

  Pupils can investigate this themselves. Flies do prefer light places. Can pupils find evidence for this? If it is true, how can they improve the design of their latrine?



Why Children's Hygiene is Important

- Many people think that children's stools are harmless, but this is wrong. A child's stool has perhaps five or six times as many germs as the stool of an adult. When the small child has diarrhoea, the stool is especially dangerous for all members of the family.
- Babies have no control over their bowels and may pass their stools in many different places both inside and outside the house. This is not only dirty but very dangerous because germs from these stools can spread easily to the rest of the family and neighbours.
- When they are older (about 2-3 years) and have learned control of their bowels, children will copy what they see others doing. If they see others in the family defaecate in the field or in the garden, or squat in an alley or by the side of the road, they will copy them because all children want to grow up and be like the others.
- Young children spend a lot of time crawling and sitting on the ground. They often put things into their mouths. And so they pick up germs in the dust from any stools that are lying on the ground around them.
- It is very easy for anyone taking care of a young child to spread germs from the stools. Germs can be spread on our hands from wiping a child's bottom, to food, cooking dishes, the furniture, clothing or the hands of other people. These germs can end up by getting into the mouth of another child or adult, and making them ill.

What Can We Do to Stop the Spread of Germs?

Children can learn good hygiene habits which prevent the spread of germs causing diarrhoea and other illnesses. Older children can *discuss* effective preventive measures.

Use a Latrine
Whenever possible, use a latrine for bowel movements, and not the field or compound. Help younger children to use the latrine properly. Cover the latrine hole, keep the latrine clean. When a latrine is not available, stools should be buried to keep off flies.

Keep Hands and Bodies Clean
Use water and ashes or soap, if available, to wash hands, bottom and soiled cloth. If the soiled cloth cannot be washed, or leaves have been used for wiping the bottom, bury them or throw them in the latrine. Clean a child's bottom and hands if they are dirty.

Keep the Place Clean
Clean up and bury stools dropped on the floor or in the yard. As often as possible (even four times a day) check to see that the places where young children play, crawl and sit are clean. Wash spoons, dishes and things that young children have played with.

Remember: KEEP CLEAN AND USE A LATRINE

How Can We Improve Small Children's Hygiene?

Older children can help small children to learn good, clean bowel habits.

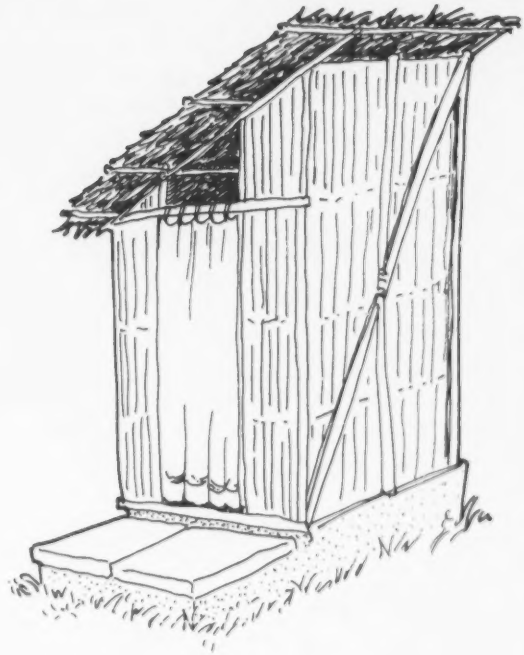
Teach Younger Ones to use a Latrine
Where there is a latrine, the older child can encourage the small one to say **when** he needs to go. The older child can then take the younger one to the latrine.

If there is no latrine, older children can help young ones learn to pass their stools in the right places by taking them with them to the woods, the fields or elsewhere to relieve themselves.

Encourage good hygiene habits such as:

- cleaning the bottom;
- washing hands after using the latrine;
- covering the latrine hole to keep flies away;
- closing the door of the latrine after use.

For girls it is particularly important that they wipe themselves properly after passing stools. If a little girl wipes her bottom with a forward movement, there is a risk that a part of the stool will be taken to where it can enter the body and even reach the bladder. This is an important cause of bladder infection in little girls. If she wipes backward, some of the stool may be left on the little girl's bottom, from where her clothes may become soiled. It is best to wipe only very gently, and neither too far forward, nor too far backward.



Provide a Suitable Latrine
When a household has one latrine, it is often made for adults. It is some distance from the house; the foot plates are far apart; and the hole is too large, too dark, and too deep for a small child. It is a dark and frightening place for small children, even if an older child goes with them. They would rather pass their stools in a corner of the house or just outside the door, where there is light and the security of having someone older nearby.

Small children need a latrine built specially for them. It should have a small foot plate, with a small hole, and be near the house.

A child's latrine can easily be built. Here is a picture of the kind of latrine that is suited to young children.

The hole is about 1.5m deep. The plate is about 200cm wide, about a meter long, and about 4cm thick. The hole is no more than 10cm in diameter. The latrine can be located in the courtyard beyond the back door of the house. A wooden cover is kept over the hole. After each use a small amount of water is used to wash off the plate so as to avoid attracting flies.

A basin and soap, if possible, are nearby so that someone can clean the children after they use the latrine, or show them how to wash their hands after cleaning their bottom. The latrine will last for two to three years before the pit fills up. When it does, a new pit can be dug, if there is still a small child in the house.

But even if a child's latrine is not built there are ways of helping to keep children's stools safe. Children can be taught to pass their stools on a banana leaf which can be immediately dropped into the adult latrine.

ACTIVITIES

Discuss. Talk about the way to teach younger children to keep clean and use the latrine, and why this is important.

Older children can discuss some things which help the germs to spread. Examples would be:

- taking a piece of cloth, wiping the bottom, and leaving the cloth lying around;
- simply holding the child out bare-bottomed over the floor or the ground.

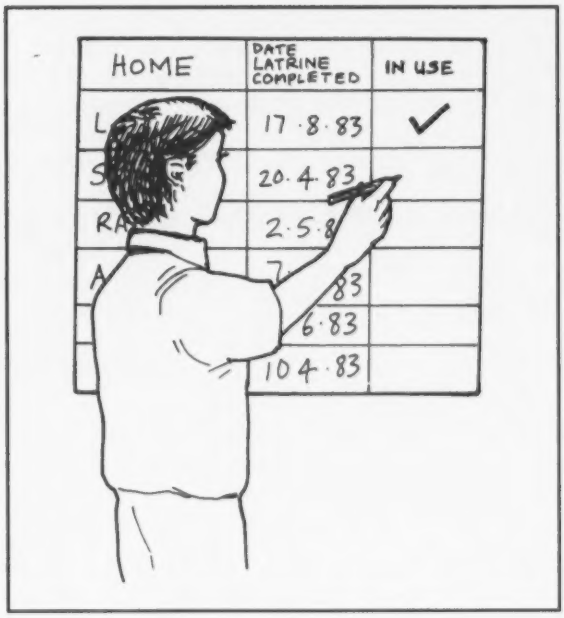
Practise good hygiene. Practise good habits at school: use the latrine; keep it clean; keep hands clean after using the latrine; wash hands before taking food.

Why do some children not use a latrine? Ask them to explain. Discuss these reasons and agree on ways of encouraging use of the latrine.

Build a child-size latrine. Older children can build a child-size latrine in the school compound as an example, measure the pit and make a mould for the plate.

A teacher or other adult needs to supervise the children who do the construction themselves. Parents can help by providing the materials - sand, cement, wood, etc.

The children can be grouped according to the places from which they come. In class, they can develop plans for helping each other build child-size latrines at their homes. A progress chart in class can show each home with a small child. Put a tick when a latrine is built at that home and another when the little child has learned to use it. This may be done for boys and girls separately.



FOLLOW-UP

Ask the children questions:

- What causes diarrhoea?
- How can diarrhoea be prevented?
- Why is it important to be especially careful about younger children's stools?
- What are some of the good hygiene habits which can help to stop the spread of germs?

Does the school now have a latrine? and a place to wash hands? What about at home? How many families have a special latrine or a special place for little children to defaecate? Have the children helped to make the special latrine? Have the children helped younger brothers or sisters to learn better hygiene? Ask them to describe what they did.

USING THIS SHEET

Teachers and health workers can emphasise the importance of keeping clean and using latrines, to prevent the spread of diarrhoea. Science lessons can be used for learning more about germs - what they are and how they spread sickness.

Teachers and parents can work with older children to plan and build the child-size latrine.

Children at school, and through Scout, Guide, and religious groups can spread the ideas of good hygiene - good food, clean water, and keeping clean - especially by their own good example. They can teach younger ones how to use a latrine and how to keep themselves clean, and help to build suitable child-size latrines where they are needed.

CLEAN, SAFE WATER

THE IDEA

Every living thing needs water to live, but dirty water can make us ill. We must be careful to keep water clean and safe: where it is found; when we carry it home; and when we store it and use it.

Water is Our Friend

Water is our best friend. Without it, animals and humans become weak and die. In many countries where there is not enough rain, there is not enough water and people suffer. Water is always precious. We must use it carefully and keep it clean.

Dirty Water Can Be an Enemy

Even when there is enough water, if it is not clean and safe, it can be our worst enemy. Babies and young children especially need clean drinking water because dirty water which has germs in it makes them ill. Some of the illnesses caused by dirty water are diarrhoea, dysentery, cholera, typhoid, jaundice, worms and, in some countries, bilharzia.

Germs and dirt which cause disease can get into the water:

- at the source;
- when we collect it and carry it home;
- when we store it and use it at home.

Sometimes water looks clean but it is not good to drink because it has germs in it.

IF THE GERMS ARE IN THE WATER, THE WATER IS NOT SAFE!

Children do science when they

Make and test a water filter of their own design

Let children try to make a filter using materials like these:

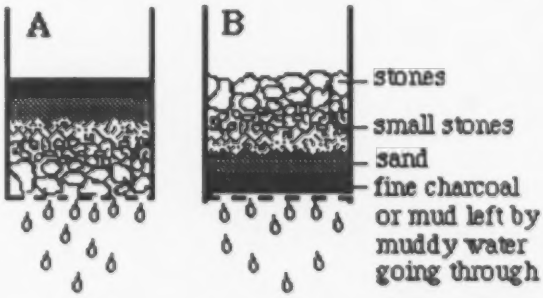
newspaper	*plastic bottle*
metal can	*stones*
charcoal	*sand*
cloth	*muddy water*

They will need simple tools, e.g.

scissors	*hammer*
knife	*nails*

Beware!
They must take care using tools.

Tins with holes made in the bottom



'A' is the better design. Each layer holds up smaller particles. The top layer grows thicker when you pour muddy water through. Pupils can compete to see who can make the cleanest water. Their test must be fair. Give each child the same amount of equally muddy water, after stirring it well.

Keeping Water Clean and Safe

We get water from many sources. Water comes from springs, rivers, ponds and wells. It is collected from these places as well as from rain or taps. There are many things that we can do to keep water clean and safe where we find it. It is also important to keep it clean when we carry it home, and when we store it. Here are some ways of keeping water clean.

Storing Water

Use a clean cloth (keep it well-washed and dried) and place it over the empty storage container. Tie it in place if necessary. Pour water carried from the well or stream through the cloth to remove dirt, dust and insects. If the water is allowed to stand for a while, many impurities will sink to the bottom. Strong sunlight will also destroy many germs in water stored in a transparent container.

SAND FILTER

WHERE WATER IS FOUND

DON'T

- Let people or animals bathe, urinate or pass stools in or near water;
- Let people wash clothes or throw rubbish into the water;
- Let people use a dirty container to draw water.

DO

- Where there is more than one place to get water, try and keep the cleanest one for drinking water.
- Where there are taps and wells with safe water, try to use these.
- Always use a clean container - clean on the inside **and** on the outside - for drinking water.

WHEN WATER IS COLLECTED AND CARRIED HOME

DON'T

- Use a dirty container;
- Let things fall into the water, or put branches of trees or other things into the water;
- Touch the water with dirty hands.

DO

- Always use a clean container for water.
- Cover the container.
- Be careful not to spill water so that it carries dirt back into the well.

WHERE WATER IS STORED

DON'T

- Let flies, dust, dirt and other objects fall in;
- Put dirty cups, hands or ladles into it;
- Let a sick person share the family drinking cup, or put left-over water back into the storage container.

DO

- Always use a clean container for storing water.
- Keep the storage container covered so that nothing can fall in.
- Always use a clean ladle for taking water.
- Keep a separate water storage container and ladle for people who are ill.

Drinking Water

If the water has been kept clean, it is probably safe for drinking. If you know that the water has been made safe by chemicals, you can certainly drink it safely.

If you are not sure that it is safe, the water can be made safe by boiling. It is especially important to use boiled water for babies, very young children and sick

people. Remember to put it in a clean container and to keep it covered. You can also make or buy a special filter which removes some of the dangerous substances from the water. Ask your health workers about filters.

Always use a clean glass, cup or gourd for taking drinking water.

ACTIVITIES

Children can discuss. Why is water important? List all the things you can do with water, at home, in the community, in hospitals, on farms, in the whole country. For which of these do we like to have clean water?

Is water which is clear or which has a good taste always safe, clean drinking water? (The answer is no. Why?) How do germs get into water?

In what ways can water help us? In what ways can water harm us? Do some of the children often have an upset stomach or diarrhoea? Are there other people in the family who do? What about the babies? What do you think might have caused this illness?

Children can find out.

In the community
In small groups, go to see the sources of water in the village and make a map to show where they are. Find out which sources are clean and well looked after, and which are dirty. If the source is dirty, what is making it dirty? Watch how people draw water and how they carry it home. Is the water kept clean and safe? Discuss what you have seen with the other children.

At school
Make a list of illnesses that can be spread through unsafe water, and find out about them. Find out more about water at the school. Where does the water come from? Are the toilets near the water source? How often is the water container cleaned? Are cups used? Are ladles used? Are cups and ladles washed before and after use? Is there somewhere to wash hands before eating and drinking?

At home

Make a list of all the containers used for water. Make a list of people in the family who had an illness which comes from dirty water. Who collects the water for the home? Can you help them? Who keeps the water clean and protected? Is the water container covered? Is there a ladle?

Find out from the health worker what is the best way to get clean drinking water in the community.

Children can help. Children can help to keep water clean and to take care of it. They can discover activities which are suitable for their age, and can do them alone or in teams or pairs. Here are some examples of the kinds of things they can do.

At the source of the water. Help to keep the **water supply** clean. Explain to little children that they must not urinate in the water, or pass stools around the edge of the water. Collect up rubbish and other objects from around the edge of the water, and take them away.

Where there is a **tap** help people to use it. This may mean helping old people to fetch and carry water.

Where there is a **well**, the surroundings must always be kept clean. If there are stones, help to build a small wall around the well.

Check to see if the **rope and the container** are clean. Help to make a support to hang them up so that they do not lie on the ground. If there is no cover for the well, help to make one if possible.

When people collect water and take it home. Explain that the containers they use must be clean. If the water at the source is not clean, explain to people that they should filter or boil the water.

At home. Explain to younger children that they should not put their hands or dirty objects into the water. Help to keep the container where the water is stored clean and covered. Help younger ones to use a ladle to get water out of the storage container and teach them to put the cover back on the water when they have finished.

Children can make up stories.

Here are some ideas for stories:

The Child Who Grew Small
A child goes down to the river to fetch water and falls asleep on the river bank. While he is asleep he dreams he has become very thin. Then all the dirt in or near the water becomes, to him, very frightening. He battles his way through it and at last wakes up ... and decides to try and stop the pollution of his water supply.

The children can be asked to think what would happen if they were very small and the dirty things were very big. What would become big? How would they feel?

The Water Dirtiers

Some powerful and selfish people in the community make the village water source dirty with their animals, or by throwing rubbish into it. What can children do? How can they get help from older people in the village?

The End of a Happy Life

This is the story told by the germ family about their very happy life in and around the water source. Life becomes less and less comfortable when children begin to keep their water clean. In the end, the germ family is forced to move to a new and dirtier place.

Children can show what they can do to make the germ family's life more difficult.

Children can make pictures and friezes. All these stories are very good subjects for pictures the children can make in groups. Some children can paint the background and others can add different things onto the pictures by sticking them on. Use cloth or leaves or stones or any other kind of material to make the pictures more interesting.

A **frieze** is a series of pictures which tell a story. Different children can draw the pictures and others can write the story underneath. A group picture or frieze can tell a story, or it could be about a topic or sequence like 'safe water', or 'collecting clean safe water and bringing it home'.

Children can make up plays, mimes, dances, or puppet plays. These stories and others can also be dramatised. Children can be animals, insects, even things, as well as people. In the 'Water Dirtiers' story, for instance, children can be Grown Up People, Cows, Flies, Children, Germs, a Fence the villagers put up around the water supply, and even the Water Supply itself. The other two stories are both excellent for turning into mime or dances or puppet plays.

Children can make posters, games and puzzles. Here are some very simple ideas that can be used for posters, but there are many others. These pictures and others like them can be used to make:

- cards for matching (picture with text);
- dominoes;
- fit-together puzzles.

DON'T MAKE OUR WATER DIRTY

Children can pass the message. Children can pass the message to other children at school, or to children who do not go to school, to parents and family members, and to the community. They can sing songs, tell stories, make plays, posters and games for playing with younger children.

FOLLOW-UP

Children can be asked, after several months, to discuss with the other children what they have remembered, what they have done to make water cleaner and safer, what more they can do.

Is the place where water is collected cleaner? Has all the rubbish been taken away? Are water containers always clean, especially on the outside? Do more children wash their hands after defaecating and before eating? How many people are still getting illnesses from unsafe water?

USING THIS SHEET

Health and community workers can tell people the best way of getting clean drinking water in their area, and explain how clean water is important in first aid.

Women and children who collect and use water can understand the importance of keeping water clean and how we can do this.

Teachers, in many lessons - geography, maths, language, science - can use the idea of clean water as a source for discussion, and for projects on map-making, disease prevention, filtration, and pollution for example.

Children at school, in Scouts and Guides and other youth groups can help keep the environment, and especially our water, clean.

This sheets should be used together with **Caring for Children with Diarrhoea** (Sheet 6.1).

PREVENTING ACCIDENTS

THE IDEA

In some places, as many as two children in a school die each year because of accidents. Many more will be injured. **These accidents need not happen.** Children can help to reduce the number and seriousness of accidents by practising safety at home, out-of-doors and on the road. Children can learn to spot the most common dangers, and understand how these dangers can be avoided or prevented. They should always watch out for the safety of others, particularly smaller children.

Children can also be prepared to help when an accident happens.

Children can talk about the accidents which they have seen happen most often in their community. Different sorts of accidents happen to children who live in different places - in towns, in villages, in rural areas. Identify accidents which have happened in the last six months at home, on the road, anywhere out-of-doors and discuss why they happened.

At Home

- **burns** from cooking pots or lamps, electrical appliances, hot food, boiling water, steam, hot fat (scalds), strong acid or corrosives (like battery acid) which damage the skin;
- **cuts** from broken glass, rusty pins, rough wood or sharp knives and axes;
- **obstruction (preventing) of breathing** from swallowing small objects like coins, buttons and nuts;
- **poisoning** from eating or drinking harmful things;
- **internal (inside) bleeding** from swallowing sharp objects like razor blades;
- **electric shock** from touching a broken electrical appliance or electrical wire.

On the Road

- **death** or injuries like heavy **bleeding, broken bones** and **damage to main organs** of the body (liver, lungs, brain) (*See* Sheet 4.2, **Road Safety**).

In the Playground or Out-of-Doors

- **burns, cuts and broken bones;**
- **poisoning** from eating certain plants and berries;
- **bites** from animals and snakes and stings from bees and other insects;
- **drowning** in open water or wells.

Children do science when they

• Understand facts ...	• Make predictions ...	• Act on these predictions ...
Matches cause fire	Children will play with matches	Hide matches out of the reach of small children.
Babies put things in their mouths	Babies can choke or cut their mouths	*(What should children do to help prevent accidents?)*
People put liquids in bottles	*(What can children predict?)*	*(How should they act?)*

What else can children write in these columns to understand, predict and act to prevent accidents?

Preventing Accidents from Happening

At Home

Danger from Burns. Accidents at home often involve fire, and children can be badly burned. If their hands are burned, they may never be able to hold a pencil or a tool; if their feet are burned they may not be able to walk properly. There are many ways to prevent burns at home:

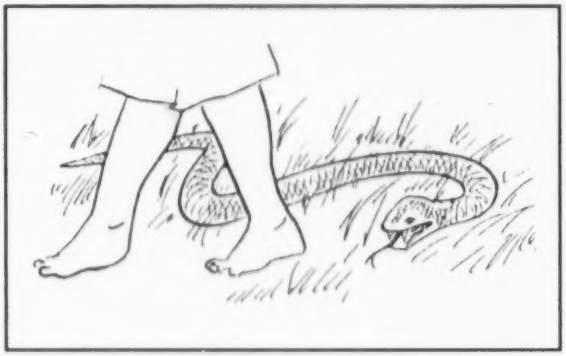
- Watch babies and young children very carefully. Do not let them go near the fire.
- Raise the family cooking stove, or make an open cooking fire on a raised mound of clay instead of directly on the ground.
- Use a thick cloth when touching hot pots.
- Be very careful that the handles of cooking pots are out of reach of babies, and turned so that they are not easily knocked over.
- Put petrol, petrol lamps and matches out of reach of small children.

Danger from Poison. Young children are also often injured or even killed when they eat or drink dangerous things.

- Never put dangerous products (e.g. bleach, plant poison, paraffin or petrol) in a coca-cola or other soft drink bottle. Children can drink them by mistake.
- Keep all medicine and poisons out of reach of children (lock them in a cupboard or trunk, or put them on a high shelf). Label all poisons and medicine carefully. Medicines are particularly dangerous because little children often eat tablets thinking they are sweets.
- Teach young children not to drink out of strange bottles or eat strange fruits and plants which may not be safe.

Danger from Sharp Things. Many cuts can be easily prevented.

- Keep the floor clear of broken glass and nails. Get rid of nails or splinters which stick out.



- Keep sharp knives and razors out of reach of young children.

Older children can identify **other** common accidents which happen **at home**. How can they be prevented?

In the Neighbourhood

Danger from Snakes. Children can protect themselves from snakebites.

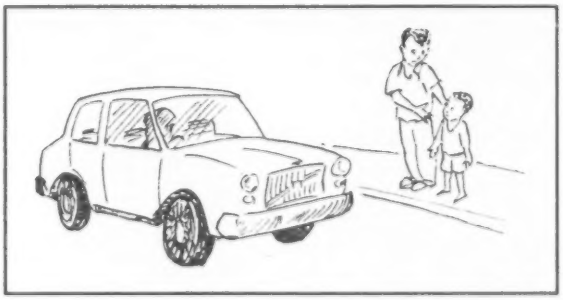
- Recognise which snakes are dangerous and where they live.
- Learn to remain very still if you are close to a snake. Wait for it to go away.
- Clear grass and weeds from the paths most commonly used by children.

Danger when Playing. Children are active and need safe places to play.

- Know the neighbourhood, and avoid dangerous places where there may be machinery, animals, snakes, glass or sharp metal.
- Make wells safe so no one can fall in.
- Play safely. DON'T:
  - climb in dead trees;
  - throw stones and other sharp things;
  - swim in swift-flowing rivers;
  - run while chewing a stick;
  - eat fruits and berries which may be poisonous;
  - play with fire;
  - make animals angry, especially when they have young ones with them.

On the Road

Many children are injured or killed each year by vehicles on the road, especially when they are walking along the road, or when they are trying to cross the road. The special rules for safety on the road are discussed fully in Sheet No 4.2, **Road Safety**.



ACTIVITIES

Be Aware of Danger

Children can record accidents that have happened to members of their families. Make three lists or graphs of accidents which happened at home, on the road, out-of-doors, and decide which kind of accidents happen most often in the community.

Why do you think these accidents happen? If you can discover why they happen, you can also find out how to **prevent them from happening so often.**

Discuss which accidents are most common for children at different ages (and why) - under 2 years, from 2-6 years, after 6 years.

Contact the health centre and ask if children can be given details of all accidents to children over the last 6 months. Make charts or graphs of the accidents that are reported.

WHAT'S WRONG IN THIS PICTURE?

Make pictures which show different dangers at home, in a playground, or at school. Put the good ones on a wall. Let the other children discuss them.

Make a series of drawings to show how an accident might happen:

1. Mother is filling the cooking stove with kerosene.
2. A visitor comes to the house and mother goes to talk to the visitor.
3. A small child, left by himself, picks up the kerosene bottle and drinks from it.

First Aid if an Accident Happens

Children can learn and practice *first aid.* Often schools or youth groups give special first aid classes. However here are some simple measures to practise and remember.

Get Help Quickly

If someone has a bad fall from a tree, or gets badly hurt in a car accident, do not move them. Cover them with a blanket to keep warm and GET HELP QUICKLY.

If someone gets a poisonous bite, do not move the limb which has been bitten. That will only spread the poison around the body. Carry the child and GET HELP QUICKLY. Do not try to treat the bite yourself. It must be done by the health worker.

Cuts and Wounds

With clean hands, wash the wound with soap and boiled water, or hot salt water. Clean out ***all*** the dirt because wounds that are left dirty can become bad ulcers.

Most small wounds do not need bandages. It is better to leave them to dry in the air so they heal more quickly. If you do use a bandage make sure it is very clean. Keeping the wound clean is better than using things like mud or iodine.

If the wound is really deep, take the person to the health clinic for treatment.

Burns

Put the burned part AT ONCE into cool, clean water for at least ten minutes. If the burn is small probably no other treatment will be needed.

If the burn is very deep or covers a large part of the body, loosely cover it using a clean cloth with a little Vaseline on it and get medical help as soon as possible.

- DON'T break the blisters;
- DON'T remove any clothing sticking to the burned area;
- DON'T put grease, oil, herbs or faeces on the burn.

Remember: if a person's clothes are on fire, you can put out the flames by rolling them in a mat or throwing a blanket over them. Then treat for burns.

Preventing and Avoiding Accidents

At School

- Look around the classroom; outside the school; around the playground outside. Look for dangers which might cause accidents. Make a list of anything that is not safe, or which might cause an injury. Discuss it with the teacher.
- Have a safety competition or campaign. Organise a project to remove or correct the dangers on the list. The children can help to:
  - mend broken chairs or desks;
  - clear the ground of nails, glass and other sharp objects;
  - cut down tall grass and weeds;
  - explain to younger children the rules of safe play.
- Form groups or teams to be responsible for looking after different parts of the school and playground. Elect a 'Safety Scout' who will lead these groups or teams.
- Discuss the school rules. Which ones have been made to prevent accidents and injury? Are there any rules that should be added?

At Home

- Watch over younger children to make sure they understand simple safety rules. Keep them away from fires. Prevent them from putting things in their mouths, ears or noses. Teach them not to touch medicines or poisons. What else should they know about?

In the Neighbourhood

- Organise a campaign with the theme 'Play Safely'. Make posters. Talk to people. Make up plays and songs for people to see and listen to in the market, outside the health clinic.
- Identify places where it is dangerous to play and discuss how these can be made safer. Take action in a group.
- Encourage the local council to put up warning signs in places which are obviously dangerous.

On the Road

- Children can draw a map. Make it very simple. Show the main roads and footpaths which children use when they come to school. The children can discuss:
  - where they cross the roads;
  - why, they cross the roads (is it really necessary?);
  - where accidents have happened;
  - which places have most accidents and why;
  - which places need extra care.

General

- Organise a safety campaign at school, or in the community. Have a campaign for two weeks against burns, then later have a campaign about safety at play, or road safety.
- Use a variety of different ways to pass the safety message to others, especially younger children.
- Write and act plays, or make a puppet play about why accidents happen, and what can be done to reduce them. Act them at school, or at clinics, or in the market.
- Make posters which show hazards in different places, and warn of the accidents which might result. Put them in classrooms or at the clinic, or in the market. (Perhaps the children could have a poster competition.)
- Make up a song about road safety and teach the song to younger brothers and sisters.

FOLLOW-UP

Have the children carried out a safety campaign? Compare the number of accidents before and after the campaign.

Check to find out if the children remember and practise the road safety rules.

Is the school a safe place for children to work and play?

USING THIS SHEET

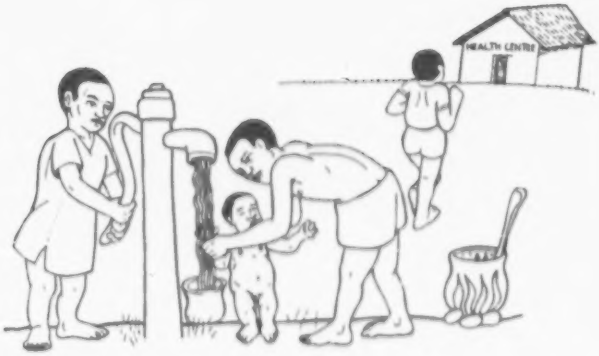
Teachers in school and out of school, **Red Cross workers, health workers, Scout and Guide leaders, Young Farmers and other youth leaders, writers** in newspapers, comics and magazines can all help to encourage the idea of safety for children wherever they are.

This sheet should be used together with **Road Safety** (Sheet 4.2) and **First Aid** (Sheet 4.3).

FIRST AID

THE IDEA

Most accidents happen at home, at school or in the community. Some injuries are minor, some are serious and can even cause death. Children are often the first people on the scene of an accident. Children need to know how to give effective First Aid. Children can teach others their First Aid skills. Learning about First Aid is interesting and practical and gives children vital and sometimes life-saving knowledge.



WHAT IS FIRST AID?

First Aid is the first treatment given to a person after an accident. This includes getting medical help when necessary.

The aim of First Aid is to:

- Keep the person alive;
- Help the person to get better.

For example: A man has cut his leg with an axe.

- Keep the man alive: Stop the serious bleeding from the cut.
- Help him to get better: Clean and cover the wound to prevent infection. Comfort the injured man and take him to the health centre.

HOW TO HANDLE AN ACCIDENT: THE SAFE APPROACH

1. Look around at the situation:
   - Are you or any other people in danger?
   - What was the cause of the accident?
   - How many people are injured?
2. Remove the danger to yourself and the injured people. (e.g. In a road accident you should ask someone to stop or control the traffic.)
3. Ask someone to go for help.
4. Look at the injuries and decide what you can do to:
   - Keep the people alive;
   - Help them to get better.
5. Behave calmly and confidently and reassure the injured people.

PRIORITIES FOR FIRST AID

In accidents where many people have been injured, the most seriously injured must be treated first. Remember that the most noisy person may not be the most seriously injured.

The **ABC rule** states the most important priorities to save lives and prevent permanent injury.

A Open the Airway (the passage from the mouth and nose to the lungs) and keep it open to allow the person to continue breathing. Check if anything is blocking the airway and remove it if possible.

Children do science when they

- **Investigate ...** cooling, a way of treating burns.

A

Find three eggs, all the same size. Put them into water. Boil the water for 3 minutes.

B

Remove the eggs carefully with a spoon. Egg A cools in air. Egg B cools in cold water for 2 minutes. Egg C cools in cold water for 15 minutes.

C

Pupils can predict how each egg would feel after 2 minutes, 5 minutes, 10 minutes, 15 minutes and 20 minutes. They can feel each egg to check their predictions.

- **Conclude ...** burned flesh needs lots of cooling. (Egg is protein, like human flesh. It cools slowly.)

B Check the **Breathing**. Place your ear next to the person's mouth and nose. Listen and feel and watch their chest and stomach to check whether they are breathing. If not, give *Mouth-to-Mouth Ventilation.*

C Check the **Circulation** of the blood by feeling for the heart beat. If there is no heart beat, give *External Chest Compression* which pumps the blood around the body.

This activity sheet does not teach the methods of *Mouth-to-Mouth Ventilation* and *External Chest Compression.* Ask a health worker or trained First Aider to teach these methods to the children.

THE RECOVERY POSITION

When a person is **unconscious** they seem to be asleep but you cannot wake them. Someone who is unconscious and breathing properly should be placed in the Recovery Position to keep their airway open. This makes sure that vomit and any other liquid will come out of the mouth so that they can breathe easily. Use the Recovery Position if you have to leave the injured person to go for help.

FIRST AID

To put a person in the Recovery Position:

1. Put the arms by the person's side.
2. Roll the person over onto their front.
3. Place the arms and legs as shown in the diagram.
4. Make sure that the chin is forward and the head tilted back and that the **person can breathe freely**.
5. If the person has broken bones, move them with great care. Take special care of their back and neck. Use a support like a rolled blanket instead of their arms and legs to keep their chest raised a little off the ground.
6. Get medical help.

BLEEDING

Bleeding can be very mild and last only a short time or very serious and can lead to death.

We need blood to stay alive. Adults have about 4 litres of blood in their bodies. Blood is pumped around the body all the time by the heart. Blood travels through two kinds of tubes called arteries and veins. The heart pushes (pumps) the blood under pressure around the body through the **arteries**. The blood in the arteries is bright red and moves quickly. The blood travels back to the heart through the veins. If someone is bleeding from a **vein**, the blood oozes (comes out slowly) and is dark red. If an artery is cut, a person loses blood very quickly. It may spurt out in time with the heart beat. **You must take immediate action to stop the loss of blood. A person can die within three minutes from severe loss of blood.**

FIRST AID

1. Immediately **press the cut tightly** with your hand or the injured person's hand over a clean pad of cloth and **do NOT let go**. If you cannot get a cloth just use your hand.
2. Sit or lie the injured person down. Raise the injured part above the heart.
3. If the pad becomes soaked with blood, **DON'T** take it off. Put another pad on top of the first one and bind it tightly with a cloth. It should not be too tight. You must be able to fit a finger between the cloth and the skin.
4. Send for the health worker immediately.

SHOCK

This happens when a person has been badly injured or is in great pain. In this state the person is losing blood and liquid from the body. Sometimes a person gets damaged inside the body and bleeds inside without showing any blood outside. Any serious loss of blood or other liquids from the body can cause shock. This is a very serious condition and you need to be able to recognise the signs. When a person is in shock:

- the skin becomes pale or grey
- the skin feels cold and clammy and sweats a lot
- the heartbeat speeds up
- the breathing speeds up and is quick and shallow
- the person may seem confused

FIRST AID

To put a person in the Shock Position :

1. Lay the person down.
2. Turn the head to one side.
3. If possible, raise the feet.
4. Loosen the clothing around the neck and waist.
5. Get medical help or carry the person to the health centre in that position.
6. Do not give the person anything to eat or drink.
7. If the person is likely to vomit or becomes unconscious, place them in the Recovery Position.

NEVER USE THE SHOCK POSITION IF A PERSON IS UNCONSCIOUS.

HYGIENE RULES

When giving First Aid remember your hygiene rules :

Germs spread diseases. There are germs all around us: in the air, in the water, in the soil, on food, in faeces and in blood. You will have germs on you. It is important to stop germs from spreading. Some germs can cause very serious diseases. These hygiene rules will help protect you and the person you are looking after.

1. Wash or wipe your hands before you help each person.
2. Cover any open cuts and grazes on your hands to prevent the spread of germs.
3. Wash your hands afterwards.

First Aid for Common Injuries and Accidents

WOUNDS

This is an injury which breaks the skin and which allows blood to escape from the body and germs to enter it. If germs are allowed to settle in the wound, the wound may become infected. With small cuts the bleeding will soon stop.

FIRST AID

Most small wounds heal well if you do these things soon after the injury:

1. Wash the wound with very clean (or boiled) water.
2. Wash the germs or any dirt away from the middle of the wound.
3. Dry the surrounding area.
4. Cover the wound and surrounding area with a very clean pad of cloth (not cotton wool or any fluffy material) and bandage it in place. If the wound is small you can apply antiseptic cream.
5. Wash the wound and put on a clean bandage twice a day.
6. If the wound is serious put on the bandage and take the person to the health worker.
7. If the person has not been recently immunised against Tetanus, ask the health worker for an injection against this very serious disease. (See Activity Sheet 6.4 on Immunisation.)

Objects that get stuck in wounds

1. Don't try to remove the object.
2. Bandage lightly over and around the object with a clean cloth, making sure that the wound is fully covered and protected.
3. Take the person to the health worker. They may also need a Tetanus injection.

Infected Wounds

If wounds are not kept clean and dry, germs grow and cause infection. An infected wound is hot, red, swollen and very painful. Pus (a thick yellow liquid) may come out of the wound. If this happens the wound must be covered with a very clean pad and the person must go to the health worker.

Infected wounds must be treated by a health worker in order for them to heal and to prevent further illness.

NOSE BLEEDING: FIRST AID

1. Tell the injured person to sit up and breathe through the mouth.
2. Pinch the soft part of the nose for at least 10 minutes.
3. Tilt the head forward and downwards.
4. If the bleeding doesn't stop take the person to the health worker.

BURNS

Burns are very common in the home. Children and babies are often involved in accidents with burns. These are always very serious and help should be got from the health worker as soon as possible.

A burn is more serious if it covers a large area of the skin or is deep. Burns which cover a medium to large (i.e. 9%) area of the body are a threat to life, especially for very young children. Serious (large) burns will need urgent medical help as the injured person may go into shock.

FIRST AID

1. Remove the person from the source of heat. If a person's clothing is on fire, wrap them in a blanket or roll them on the ground to put out the fire.
2. **Cool the burnt area immediately** using lots of cold, clean water. It may take up to half an hour to cool the burnt area. If the burn is very large put the person into a bath of cold water.
3. **For small burns** (less than the size of a large coin or stamp):
   Keep the burnt area clean and dry and protect it with a loose bandage. If the burn is bigger than a large coin, show it to a health worker.
   For large (serious) burns:
   Cover the burnt area with a dry and very clean piece of cloth and get medical help immediately.
4. If necessary, treat for Shock. If the person is unconscious, put them in the Recovery Position.

Remember:

- **Don't** break the blisters.
- **Don't** remove any clothing which is sticking to the burnt area.
- **Don't** put grease, oil or herbs on the burn.

BROKEN BONES (FRACTURES)

A cracked or broken bone is called a fracture. There are two types of fracture :

- a **closed fracture** when you cannot see the bone;
- an **open fracture** when the bone has broken through the skin and can be seen.

It is important to keep the injured part still in a fixed position to prevent any further damage to the body. However, if the person is unconscious, they must FIRST be put into the Recovery Position.

FIRST AID

1. If there is serious bleeding, treat this life-threatening problem first.
2. If the person is unconscious, put them into the Recovery Position.
3. If it is an open fracture, cover the wound with a clean cloth to prevent infection.

4. **To stop the broken bone from moving:**
   - place padding made from soft cloth around the broken bone.
   - support the broken bone by bandaging it to a splint (see below) or a strong part of the body.
5. Try to raise the limb with the broken bone to prevent the limb from swelling.
6. Check for signs of Shock and treat if necessary.
7. Get medical help or transport the person to a health centre making sure that the broken bone is well supported and cushioned.

MAKING SPLINTS
Splints help to stop the broken bone moving.

1. The splint is made from something which is stiff or does not bend easily. This could be cardboard, many newspapers, thin bamboo matting etc...
2. Pad the splint with soft cloth.
3. The splint must extend beyond the injured part on either side.
4. Tie it securely with strips of cloth but not so tight as to cut off the blood supply to the injured part. (Never use string or wire!)

POISON
Many people, especially children, swallow dangerous poison by mistake. There are many different kinds of poison which have different effects on the body. In most cases they cause stomach pain and vomiting.

Some of the most common poisons are: kerosene and petrol; chemicals used for farming, including DDT, insect killers; medicines (any kind when too much is taken by mistake); bleach and cleaning powders; iodine; poisonous leaves and berries

FIRST AID
1. Give the person plenty to drink like fresh water or milk. Do not give a fizzy or alcoholic drink.
2. Do not try to make the person vomit.
3. Seek the help of a health worker immediately.
4. If the person is unconscious, put them immediaely into the Recovery Position and do not try to give something to drink.

SNAKE BITES
Most snakes are not poisonous. For example, many countries in Africa have up to 100 types of snakes. No more than 10 of these are poisonous. The health centre may have medicines to treat the different kinds of poisonous snake bites.

FIRST AID
1. Lay the person down and keep them calm and still.
2. Stop the poison spreading by keeping the bitten part still. Try to keep it lower than the heart.
3. Wash the bite with water.
4. If the person becomes unconscious, put them into the Recovery Position.
5. Get the health worker to come.
6. Try to find out what the snake looked like. If possible show it to the health worker.

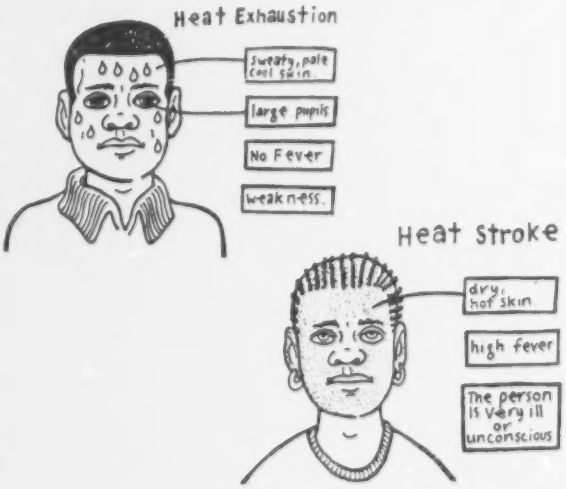
HEAT EXHAUSTION
A person who works and sweats a lot in hot weather may become pale and weak and perhaps feel faint. The skin is cool and moist. The pulse is rapid and weak. The person may seem confused. This is caused by dehydration. It is a very serious condition.

FIRST AID
1. Lie the person down in a cool place and raise the feet.
2. Give the person plenty to drink. The Oral Rehydration Solution is the best drink to give (See Activity Sheet 6.1)
3. If the person is unconscious put them into the Recovery Position and do not give anything to drink.

HEATSTROKE
Heatstroke is caused when the body temperature gets dangerously high. This may happen in very hot weather. The skin becomes hot and dry. The person has a very high fever and may be unconscious.

FIRST AID
1. Lower the body temperature immediately by:
   - moving the person to a cool place.
   - soaking the person with cold water and fanning him until the fever drops
2. Get medical help immediately.

Use the same treatment for fevers.



ACTIVITIES

◆ **Make a First Aid Kit**

People often think that they cannot give First Aid without special First Aid equipment. This is not true. You can always give First Aid using the things you find around you.

It is however a good idea to have a First Aid kit prepared in the school or community. You can make this easily and cheaply. A basic First Aid kit includes:

12 Triangular bandages made from a meter of clean cloth cut in half
Antiseptic cream
Safety pins
Cotton wool
A torch
Sticking plasters
A thermometer

To make bandages the children can boil the cloth, dry it by hanging it up in the sun and parcel it in clean paper. They can make dressings by covering cotton wool with cloth to make a pad and then sewing this onto strips of cloth. All the First Aid kit can be put into a clean, air-tight container.

The children can discuss how to use this equipment to practice all the First Aid treatments they have learned. e.g. How many ways can you use the triangular bandages: to make the pads to stop bleeding; to tie a support for a broken bone; to make a bandage for a wound....and many, many other things.

Learning First Aid Skills

It is very important that the children practise the different First Aid treatments many times so that they will feel confident and know what to do in a real accident. Make the practices as realistic as possible, using First Aid equipment and perhaps red paint for blood.

In learning the First Aid skills children can:

◆ **Watch** someone demonstrate the different First Aid treatments one by one and **practise** each one in turn with their friends.

◆ **Act out different accidents** and **give First Aid**. Other children can say whether they gave the correct treatment. *e.g. They can pretend to fall from a tree and break their leg; to cut their arm with a knife; to be knocked unconscious by a falling coconut; to be burnt by boiling water; and many more.....*

◆ **Discuss** when they would use the Shock Position and when they would use the Recovery Position. They can act out examples of each.

◆ **Learn how to feel a pulse** (heartbeat):
- place the tips of the fingers gently on the inside of the wrist below the thumb and move them until they can feel the pulse. This is the blood being pumped from the heart around the body.
- put the thumb and fingers gently around the windpipe, then take the thumb away and feel the pulse through the fingers.

◆ **Count how many heart beats** they have in a minute.They can run around a field and then feel their pulse. What has happened? They can try finding and counting the pulse on their friends and adults. The children can make a chart to show their results.

◆ **Discuss how much blood** adults and children have in their bodies. An adult has about 4 litres of blood in the body. Small children obviously have less blood and so bleeding in them is more serious. (e.g. an average sized child of 10 years would have about 3 litres). The children can measure 4 litres of water to see how much it looks like. If possible, mix in some red dye so it looks more like blood. If a person loses more than 1/2 litre of blood it is dangerous. Try pouring 1/2 litre of the red water on the ground to see how big a pool it makes.

◆ **Listen to the story** of Violet and Michael and **discuss the First Aid rules.**

A Story

Michael and his little sister Violet were walking to school one day, when Violet fell and cut her arm on some sharp metal. The cut was deep and a lot of blood was flowing out. Michael acted at once. He pressed the cut on little Violet's arm as tightly as he could, lifting it high above her head. He sent someone to get the health worker. He asked his friend to fetch him two clean cloths and told him to make one into a pad. He strapped the pad onto the arm binding it tightly with another cloth. He knew that the danger was great when the cut was deep and bright red blood was flowing fast. He had acted quickly to stop the flow of the blood.

Violet looked very pale; Michael felt her pulse which was beating very fast. Her breathing was also very quick and shallow. Michael knew that she was in shock. While they waited, Michael lay Violet down with her legs raised and her injured arm well above her head. When the health worker arrived, he said "Well done, Michael! You have saved Violet's life. You stopped the severe bleeding and you treated her for Shock."

- **Make up other stories** to show the use of First Aid in different situations. Remember the rules about the Safe Approach, the First Aid Priorities and Hygiene. Later they can act out these stories. e.g. The stories could be about:
  The day my little sister burnt her hand.
  Three accidents on the day of the great storm.
  When baby Rajee drank kerosene.

- **Practice how to clean wounds**, washing the germs and dirt away from the centre of the wound. Put a drop of ink onto a plate. Try to remove the ink by cleaning from the centre outwards. Remember to fold the cloth to a fresh clean piece each time to wipe the ink. It should be possible to make the plate completely clean!

- **Think of the bones** which could be broken in the body and design ways of supporting these bones. They can collect materials to make splints and practice making and strapping on splints with their friends.

- **Make a stretcher**. A stretcher is used to carry an injured or ill person. It is made usually from very strong cloth and 2 long poles. A home-made stretcher can be made by rolling 2 strong poles into the sides of a blanket.

- **Draw pictures** and **act out plays** to show the difference between heat exhaustion and heat stroke and the different ways in which to treat them.

Finding out More

The children can:

- **Do a survey** to find out what kinds of accidents people in the community have had. How many have there been? Why did they happen? What kind of First Aid was given? Was this First Aid correct? Do they know how to do it better. They can make a chart to show the results of their survey.

- **Use the survey** to make a list of all the accidents which have happened in the community and discuss ways of preventing these accidents. (See Activity Sheet 4.1 on **Preventing Accidents**.)

- **Find out the local treatment** for burns and wounds and discuss with a health worker whether these are helpful or harmful.

Passing on First Aid Skills

The children can share their important First Aid knowledge with other children, their families and communities in many ways:

- **Discuss the results of their survey** and decide on the messages and ways in which they can teach others about First Aid.

- **Make up plays, songs, posters and games** to teach others about First Aid.

- **Design a First Aid test** which they and other children can take. If they don't pass the first time, they can practice and try again. Special badges can be given when children pass their First Aid test. A simpler test can be designed for the younger children. Each First Aider can always carry 2 clean triangular bandages with them.

- **Establish a First Aid post** in the school or community. They should keep the First Aid kit always ready.

- **Organise an Open Day** in the school to pass on messages about accident prevention and First Aid.

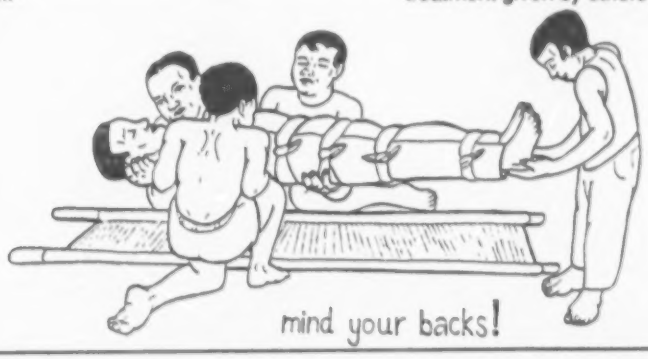
Follow Up

The children can find out

- how many of them remember the First Aid rules.
- how many of them have used their First Aid knowledge.
- how many other children and family members have learnt some First Aid.
- if the First Aid post is being maintained and used.

USING THIS SHEET

Children can help by using their First Aid knowledge and passing it on to others. **Teachers** can include these activities in science, health and other lessons and can follow-up later to support the children in their First Aid activities. **Leaders of youth groups**, such as **Scouts, Guides** and **Red Cross** can use these activities and introduce First Aid tests for badges. **Health workers** can also carry out these activities with children as good First Aid treatment given by others helps them in their own work.



This sheet can be used together with **Preventing Accidents** (Sheet No 4.1) and **Road Safety** (Sheet No 4.2).

CARING FOR CHILDREN WITH DIARRHOEA

THE IDEA

Diarrhoea is dangerous because it can both kill and cause malnutrition. It can be prevented by **keeping clean, using clean water** and by **eating properly.** Children who get diarrhoea may die because they become **dehydrated,** that is, their body loses too much water. The liquid they lose must be put back in their bodies. A **Special Drink** can be made by children to help replace the lost water when a child has diarrhoea and prevent dehydration.

What is Diarrhoea?

Diarrhoea means frequent, watery stools. Often children with diarrhoea also vomit and have severe pains in the abdomen or tummy. The stools may smell strongly and also pass noisily. Diarrhoea is caused by swallowing germs which can live in dirty food and water and human or animal stools. The body tries to get rid of the bad germs from the body through the diarrhoea.

Diarrhoea is Dangerous

Children who have diarrhoea lose a lot of water, especially if they are vomiting and have a fever. Children may die of diarrhoea, usually because they lose too much water and salts from their bodies and nobody helps them to drink. This loss of water and salts is called **dehydration.** The family should understand that the water lost in diarrhoea needs to be quickly replaced.

What to Do When a Child Has Diarrhoea

Act immediately! Do not wait for signs of severe dehydration.

We can prevent serious dehydration occurring by doing the following:

- Give the child plenty to drink to replace the water that is lost, as soon as the diarrhoea starts;
- Give the child enough food to keep him/her strong.

What Are the Signs of Dehydration?

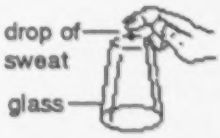
The child is thirsty, or may appear irritable, restless or half-asleep. The mouth and tongue become dry and there are few tears when the child cries. Eyes appear sunken and when the skin is pinched, it returns to normal slowly.

These signs only appear if the child becomes **very dehydrated** from diarrhoea. **A child with these signs is in great danger.**

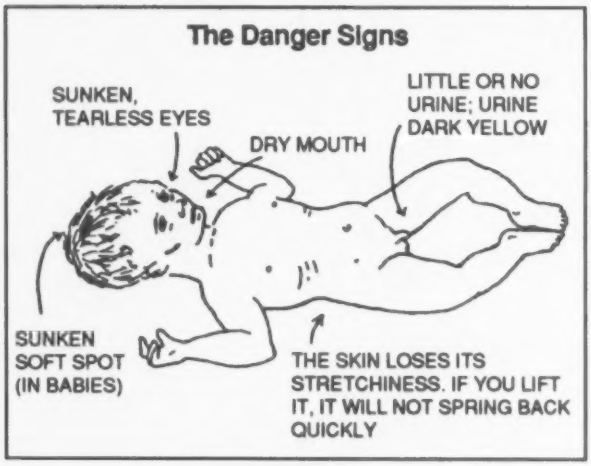
Take the child to a health worker if any of these danger signs of dehydration begin or if the diarrhoea lasts more than two days. Keep giving the child liquids (the Special Drink is best) while going to the health centre.

Children do science when they

- **Observe ...** by tasting, that their sweat is salty
- **Investigate sweat ...** by putting some of their sweat onto a piece of clean glass, and allowing it to evaporate
- **Infer ...** that the body loses salt during sweating, because salt dissolves in water
- **Understand ...** that salt is lost in the same way during diarrhoea
- **Measure ...** the amount of sugar, salt and water needed to make a special drink for children with diarrhoea
- **Observe ...** by tasting the special drink, that it is not very salty. *(It should be no more salty than tears, a little less salty than sweat. Too much salt in the drink can make the sick child worse.)*



Water in the sweat evaporates. Salt is left on the glass.



How Can Diarrhoea Be Prevented?

Diarrhoea can be prevented by:

- keeping ourselves and our surroundings clean;
- eating properly, so the child grows well;
- using clean water.

Keeping Clean (*see* also Activity Sheet 3.3)

BY KEEPING CLEAN, WE CAN PREVENT DIARRHOEA

Dirt, rubbish, stools and urine contain germs which can cause diarrhoea. These germs can be carried by flies as well as on dirty hands. Keep these germs away from food and drinking water.

Wash your hands:

- after using the latrine;
- after cleaning children who have urinated or defaecated;
- before cooking or eating;
- before feeding children.

Remember to wash the children's hands too. The children can discuss why this is necessary.

Use a latrine. If there is none, make sure that the whole family passes stools far from the house and far from any water. Stools passed near the house should be taken away and buried.

Remember! Small children's stools are more dangerous than adults' stools.

Healthy Food (see also Activity Sheet 2.1)

Breastmilk is the best food for babies and helps to prevent infections, including diarrhoea. Breastfeed babies for as long as possible. Dirty feeding bottles cause diarrhoea.

When they are about four to six months old, all babies should begin to take other foods, as well as breastmilk. Soft mashed foods, like porridge and fruits, given frequently are best.

The food we eat should be fresh and prepared in a clean place, using clean pots and utensils. Cooked food should be eaten while hot. If it needs reheating, it should be well heated before it is eaten.

Keep flies away from food and always wash your hands carefully before handling and eating food. Wash food in clean water before cooking or eating it.

Clean Water (see also Activity Sheet 3.4)

Make sure water for drinking is clean. Take it from the cleanest possible source. Keep it in a clean, covered container, and use this water for drinking and cooking only.

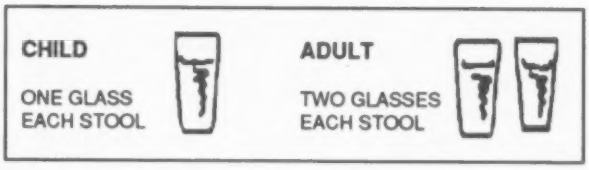
Keep the source of water clean. Keep animals away. People should not spit, throw rubbish or wash themselves or their clothes near the place where people get their drinking water. Never urinate or defaecate in or near water.

Treating Diarrhoea

1. Plenty of Fluids

The most important thing is to be sure that the child drinks as much liquid as he loses, from the time the diarrhoea starts. Rehydration is putting back into the child's body the water that has been lost because of the diarrhoea and vomiting.

Giving lots of liquid to a child with diarrhoea may at first increase the amount of diarrhoea. This is all right. Most of the fluid will still be absorbed and the body is trying to get rid of the germs in the diarrhoea. A child with diarrhoea needs one cup/glass of liquid (small glass for a small child) each time he/she passes a loose stool.



2. Continue Feeding

Sometimes mothers stop giving food to a child who has diarrhoea. This is a mistake. The sick child needs food so that he has enough strength to fight the illness. Breastmilk is the safest and best food for babies. Encourage older children to take their usual food, several times each day. Be patient. Sick children need to be encouraged to eat. (*See* Activity Sheets 6.2, **Caring for Children Who Are Sick** and 2.1, **Feeding Young Children: Healthy Food.**)

3. Medicines

Medicines are not important for most cases of children with diarrhoea and in all cases are less important than fluids and food. NEVER give medicine without the advice of a health worker. Anything that puts water back into the child helps to fight dehydration, e.g.:

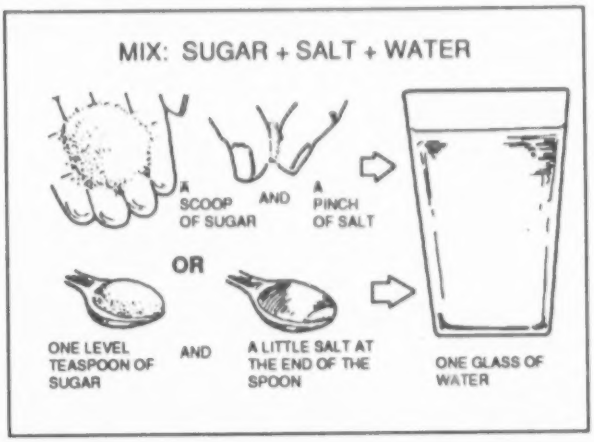
- many of the herbal teas and soups that mothers give to children;
- mother's breastmilk which gives the child both food and water. It is important to continue breastfeeding a baby with diarrhoea. (Milk in a bottle is never as good as breastmilk.);
- rice water (the water in which rice has been boiled) or any other liquid in which food has been cooked, with a little salt, is an excellent liquid for preventing dehydration;
- any other liquid drink, e.g. coconut water, lime or lemon water, diluted fruit juice, weak tea or soups.

The Special Drink

The best liquid is a **Special Drink**, called **Oral Rehydration Solution**. This drink can be made from packets of oral rehydration salts, available from health centres and sometimes shops. However, children can easily make the Special Drink themselves using salt, sugar and clean water and so help to treat diarrhoea in younger children and babies.

Making the Special Drink

The **Special Drink** is very easy to make. For one glass at a time:



For larger quantities, mix FIVE to EIGHT level teaspoonfuls of sugar, plus ONE level teaspoonful of salt with ONE LITRE of clean water. (A teaspoon is a small spoon that holds not more than 5 ml of water.) In your community, it may be easier to make smaller quantities than a litre at a time. The children can consult their teacher/health worker to see what quantity is normally used locally.

REMEMBER!

BEFORE GIVING THE DRINK, TASTE IT!
IT SHOULD BE NO MORE SALTY THAN TEARS

If it is too salty, then throw it away, and make the drink again, using less salt. Make just enough for 24 hours. Next day, throw away any that is left over and make some more if necessary.

Ways of measuring the Special Drink may be a bit different from place to place. The children can find out from the health worker how mothers are taught to make the Special Drink. How do they measure the water, sugar and salt?

How to Give the Special Drink

The **Special Drink** must be given as soon as the diarrhoea starts, that is, as soon as the stools are watery. Give a little at a time in sips from the glass or from a spoon. Even if the child does not want it, or spits, gently insist, and persuade him to drink it all, a little at a time. Even if a child vomits, wait ten minutes, then try again. The amount he vomits will be less than you have given him. Let the child rest after every five sips if he wants to. This may take some time, day and night, and older children can help their mother by taking turns during the night.

How Much?

The drink should be given each time a stool is passed. A child under two should have half a glass each time. An older child requires a full glass each time. An adult needs two cups each time. Continue giving the **Special Drink** as long as the stools are even a bit watery. Do not stop until both urine and stools are normal. This may take 1 or 2 days or even longer.

ACTIVITIES

Children can collect information about diarrhoea and how common and dangerous it is. How many times have their younger brothers and sisters had diarrhoea in the last year (or during the last rainy season, or since some big festival)? They can find out at what ages it is most common by counting how many times children of different ages had diarrhoea.

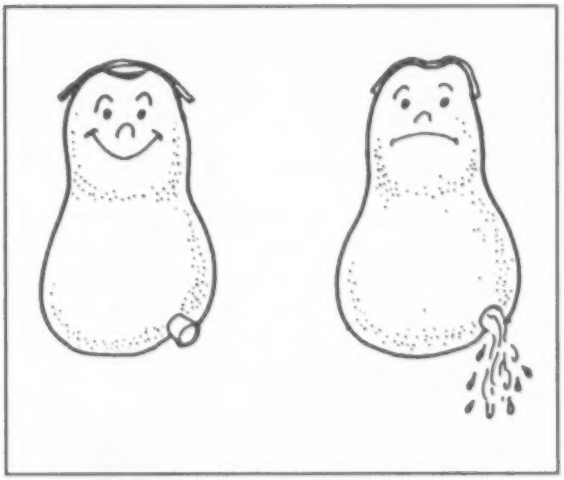
They can see how often breastfed babies and bottlefed babies get diarrhoea. Which get diarrhoea the most? Why?

How many children in the community have died of diarrhoea? This information can be used later to help decide if different health activities have made a difference to children's health.

Children Can Experiment

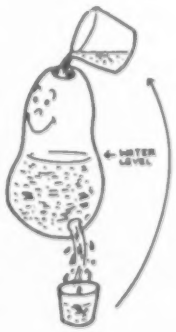
1. Carry out an experiment with two cut flowers or plants. Put one in a container of water and leave the other without water. Ask the children why the plant without water has died. Water is necessary for life, and plants - and people - cannot live without it.

2. The children can bring a small, hollow gourd to school. (If no gourd is available, an old ball, plastic bottle or anything similar will do.) Draw a mouth and some eyes on the gourd (see illustration).



Make a hole in the top of the gourd, and a small hole with a plug in the bottom. Fill it with water and cover the opening at the top with a small, thin, damp cloth. Then pull the plug out and let the children notice how the cloth sags into the hole. Discuss how this compares with the head of a baby with diarrhoea.

3. Mark a line on the hollow gourd (or whatever was used). Water should never fall below this line, or else the gourd will be too empty. For a person, this means dehydration and death. As long as just as much water is put back as that which is lost, the water level will not go down (so the child will not get dehydrated). A child with diarrhoea needs one glass of liquid each time he passes a loose stool.



Children Can Learn to Make the Special Drink

The children can prepare the Special Drink, and then drink some of it to check that it is no saltier than tears.

Children Can Work in the Community

The children can demonstrate their 'diarrhoea dolls'. They can make up plays and puppet dramas about diarrhoea and how to care for a child with diarrhoea. They can also invent songs and stories, and make posters showing how to prepare the Special Drink. They can discuss where to show them to help others learn how to make and use the Special Drink.

FOLLOW-UP

Discuss with the children how much they have learned.

- Do they think they have been able to help the community?
- Have other people in the community learned some of the same information?
- Have many of the children used what they know in the home and the community?
- Do fewer babies and children suffer and die from diarrhoea as a result of this activity?

Counts can be made each month, after six months and after a year to see, for example:

- how many children - or their mothers - have made the Special Drink for those with diarrhoea;
- how many cases of diarrhoea there have been in the children's families;
- whether any children in the community have died of diarrhoea.

Is there a difference between babies who are bottlefed and those who are breastfed.

Ask children who have used the Special Drink for another child with diarrhoea to tell the story to their friends, explaining how and when they (or their parents) made and used it. How long did they give it? Did it seem to help? Did they have any difficulties? What were the results?

USING THIS SHEET

Health workers can demonstrate the use of the Special Drink, and talk about it to mothers at clinics. It is best if they themselves have rehydrated a child, so they can explain the process very clearly.

Teachers can teach about the Special Drink in science or health lessons.

Scouts, Guides and youth groups can spread the knowledge about preventing dehydration, and, if it does occur, how to treat it quickly.

Children can make the Special Drink and help feed it to sick brothers and sisters.

This sheet should be read together with Sheets No 3.3, **Children's Stools and Hygiene** and 3.4, **Clean, Safe Water**.

CARING FOR CHILDREN WHO ARE SICK

THE IDEA

When some young children are ill, they need someone with them most of the time, to comfort them, to care for them, to wash them, to give them food and drinks, and, as they get better, to play with them and to keep them occupied and happy. Mother does all this best. Older children can help. They can also do some of the household work to give their mother more time to be with the sick child.

There are a number of ways an older child can help a younger brother or sister who is ill:

- by sitting with the sick child and keeping him company;
- by comforting and caring for him;
- by keeping the sick child clean;
- by playing with him;

and by knowing what to do for particular symptoms, such as fever, difficult breathing, vomiting and diarrhoea.

Companionship

Young children who are sick need someone with them, if possible, all the time, to provide reassurance and to help every time they need anything.

Comfort

A sick child is unhappy, sometimes because he is in pain, or because he is frightened, often without really knowing why. A caring brother or sister will be able to find out what the sick child needs and comfort him by touch and word. You can do things for him which he may not be able to do for himself, to help him through his illness - make him comfortable in bed, keep him warm, or cool, protect him from bright light, keep off flies or just keep quiet so he can sleep.

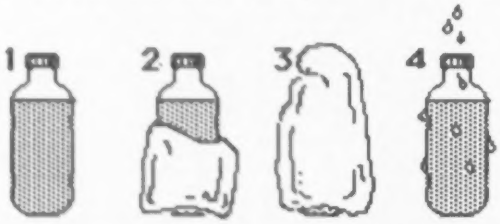
Drinks

A sick child needs to drink a lot, about two pints of liquid a day. This can be cold water, milk, weak tea, fruit juice or soup. If there is diarrhoea, the Special Drink is best (*see* Sheet No 6.1, **Caring for Children**

Children do science when they

- **Investigate ...** which bottle of warm water, representing a baby with a fever, will cool first, then second, and so on. *(Relate this to caring for a child with a fever.)*

The bottles contain the same amount of warm water, taken from the same pan or kettle at the same time.



1. *Warm water*
2. *Warm water, half wrapped in a thick cloth.*
3. *Warm water, completely covered with a cloth.*
4. *Warm water, with cold water dropped onto the bottle.*

with **Diarrhoea**). Small drinks offered often may be the best way to persuade a child to drink the amount he needs.

Food

Although sick children usually do not want to eat, they need food just as much as when they are well. Encourage them to eat by offering them things they like, and can easily swallow. It will be easier if you give them small amounts more often. Soft foods like mashed bananas, rice or porridge, which do not need to be chewed, are best. Patient, regular spoon-feeding will give the sick child strength through the illness.

Cleanliness

Sick children are more comfortable if you wash them regularly with soap and water, or just wipe them with a damp cloth, and put clean clothes on. Every time they vomit or have diarrhoea they need to be thoroughly cleaned and comforted.

Play

As sick children begin to recover, they need to be kept interested and happy. An older brother or sister can read or tell stories, sing songs and play games with them.

Particular Symptoms

Fever

A child with fever needs to be kept cool by being uncovered, fanned, and wiped with a damp cloth. As he cools down, he needs to be lightly covered again.

Difficult breathing

Young children often get ill with colds and coughs which get better after a few days. If the breathing becomes difficult, noisy or quick, this is a sign of a more serious illness, and you must get help without delay from a doctor or health worker.

Vomiting

Children often vomit when they are ill. Sometimes coughing makes them vomit. When they vomit, clean them, and change their clothes if necessary. Then give a small drink. If a child goes on vomiting, put him to lie on his side to reduce the risk of his choking on the vomit. A child who vomits again and again should be taken to a health worker.

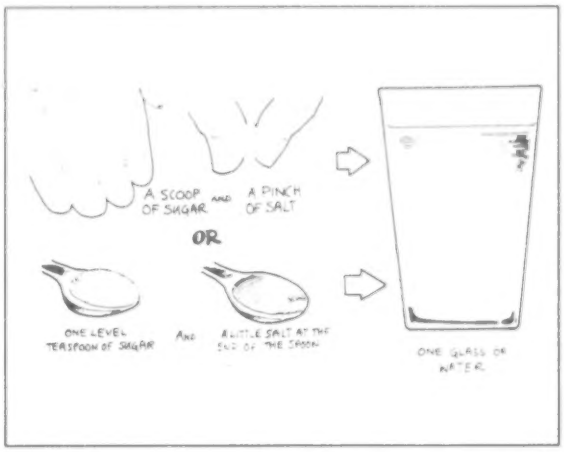
Asking for help

Whenever you are looking after a sick child, you must be sure to get help if the illness seems to get worse. Watch especially for fever, vomiting, bad diarrhoea, quick breathing or increasing drowsiness. Find out where to go for help.

Diarrhoea

Any child who is ill may have some diarrhoea with loose stools. This needs no special diet, only the regular food and drinks already described. More serious diarrhoea with frequent watery stools must have immediate treatment with the Special Drink of sugar and salt in water (*see* Sheet No 6.1, **Caring for Children with Diarrhoea**), and the child should be taken to a doctor or health worker.

Give the drink a little at a time, and make sure that the sick child drinks one glass of Special Drink for each stool he passes. Keep on giving the Special Drink until the stools are normal. This may take more than one day.



ACTIVITIES

Children can discuss
Ask children how it feels to be sick. When were you ill? How did you feel? What did others do for you? What did you want most of all when you were sick? What made you feel good when you were sick?

Children can experiment and observe
One of the children can run around until she is hot. Then she can be wrapped up tightly in a cloth or blanket for some time, including the back of her head. Ask the child how she feels now. Then uncover her so that the body heat can escape and ask her again how she feels.

It is not good for a child with a fever to be wrapped up tightly in too many blankets or clothes

Food can be mashed and passed down a tube of bamboo or through a narrow-necked bottle. Let the children see how soft food goes down easily, whereas hard and lumpy food sticks.

A child who is sick can swallow soft food without working hard to chew it, and the soft food goes down more readily

Let them discuss the illnesses of younger brothers and sisters. Who looked after the sick child? Were the older children able to help in any way? What do you think they **could** have done to care for the younger child? Is the mother happy to have help from the older children?

If the children have already discussed the signs or symptoms of illness (*see* **Looking After Our Eyes** (3.2), **Caring for Children with Diarrhoea** (6.1), **Polio** (6.5), **Coughs, Colds, Pneumonia** (6.7)), they can ask each other questions to see how much they remember. They can discuss the various symptoms, and tell how they can help a young child who has those symptoms to feel more comfortable.

Children can practise
A child who is hot from running can be wiped with a damp cloth, to show how it cools the hot body. Children can be shown the correct way to wash a sick child, perhaps by the health worker. They can be encouraged to practise on a doll, or even each other.

Children can show how they would prepare food for a child who is ill, and how they would give it to the child. Would they just leave it beside the child in a bowl? How often would they offer food to a sick child? Let one child play the part of the sick child, and be given drinks and soft food on a spoon.

If the children have already learned how to make the Special Drink which must be given to children with diarrhoea (Sheet No 6.1, **Caring for Children with Diarrhoea**), they can talk about how to do it, and make some in class.

Children can find out
Find out who takes care of sick people in the community, and find out how they do it. What are the most important things they do for the sick person?

Children can make cartoons
Children can make strip cartoons, or posters, or cards to show the different stages of an illness and the care that must be given at each stage.

Children can make a play or tell a story
A group of children can make up a play to show how to care for a child who is ill. One child can pretend to be sick. Other children can act and mime how they can care for him and comfort him: wash his clothes; help him eat; give him many drinks; bathe his head and hands and mouth and so on. They can play the part of all the different people in the family, and show what they do when a little child is ill.

Or children can tell a story to show the others what they did when one of the younger children was ill at home.

FOLLOW-UP

Find out how many of the children have cared for a sick child at home. What did they do? What could they have done better?

Perhaps they could keep diaries or medical cards to record how they helped. Did any of them stay up in the night to help mother give liquids to a child with diarrhoea or vomiting, or high fever?

Ask the children questions to see how much they remember about the importance of:
- proper food and drink;
- comfort and care;
- cleanliness.

USING THIS SHEET

There are many ways in which **older children** can help and comfort younger ones who are ill. This will help the sick child to get better more quickly. It will also help the mother who will have many extra jobs to do when a child is sick.

Teachers in school can teach older children the ways they can help by using these ideas in health lessons, perhaps using short plays or mime, or telling stories. **Health workers** can use these ideas with groups of children in the community, in a queue at the health clinic, in youth groups, or in schools. **Youth leaders, and Guide and Scout leaders** can adapt these activities and perhaps award a badge or certificate for proficiency in child care.

This sheet should be used together with **Children's Stools and Hygiene** (Sheet 3.3) and **Clean, Safe Water** (Sheet 3.4).

WORMS

THE IDEA

A parasite is something which gets its food from our body. Worms are parasites. They get into our body in many ways. They can make us very ill, stop children from growing well and even kill them. Worms can be prevented by simple hygiene and sanitation practices and can be cured with medicines.

Treat all the family for worms

Worms and Parasites

Millions of people have worms and other parasites in their bodies. They get into our body in different ways. There are many different kinds of worms, some large, some so small that we cannot see them. Sometimes the ones we cannot see are worse than the bigger ones. Children get even more worms than adults.

How Do They Make Us Ill?

Some people think worms in the body are not dangerous. This is wrong. Worms are very dangerous because they live off us, by taking the food or sucking the blood inside us. They make us weak because they eat our food. Children with worms can be bad-tempered and tired, and do not do well at school. Worms stop children from growing properly. They make it easier for other diseases to attack children. Children with worms do not get better from other illnesses quickly. Sometimes worms even kill children.

How Do We Get Worms?

Worms can multiply very rapidly: one worm can lay thousands of tiny eggs which we cannot see. When a worm is inside the body it lays thousands of eggs which pass out of the body. They can pass out through leg ulcers, in the urine or in the stools.

If the stools are left where we walk and sit and eat, the eggs in the stools get onto things we touch: furniture, water, soil, dust, etc. Flies can move from the stools and carry the eggs onto our plates and cups, or onto the food we eat.

We swallow these eggs without knowing, and they grow into worms inside us. Then they travel through the different parts of our body until they find a good place to grow, usually in our intestines where they have easy access to our food.

Some Common Harmful Worms

There are many different kinds of worms and parasites. These are some of the most common ones:

Threadworm. These are very common especially in young children. They are tiny white worms like bits of thread. Threadworm can be seen on a child's anus especially at night, because that is the time when the female comes out to lay her sticky eggs which are too tiny to see but make the child's anus very itchy. This makes the small child scratch and collect eggs under his nails. Then he leaves the eggs on whatever he touches, e.g. his own mouth, food, the bedding and his clothes. In this way, he can swallow more eggs, and the whole family can easily get threadworm.

Children with threadworm are tired because they sleep badly, and uncomfortable because they itch. They may be bad-tempered and not very strong.

Children do science when they

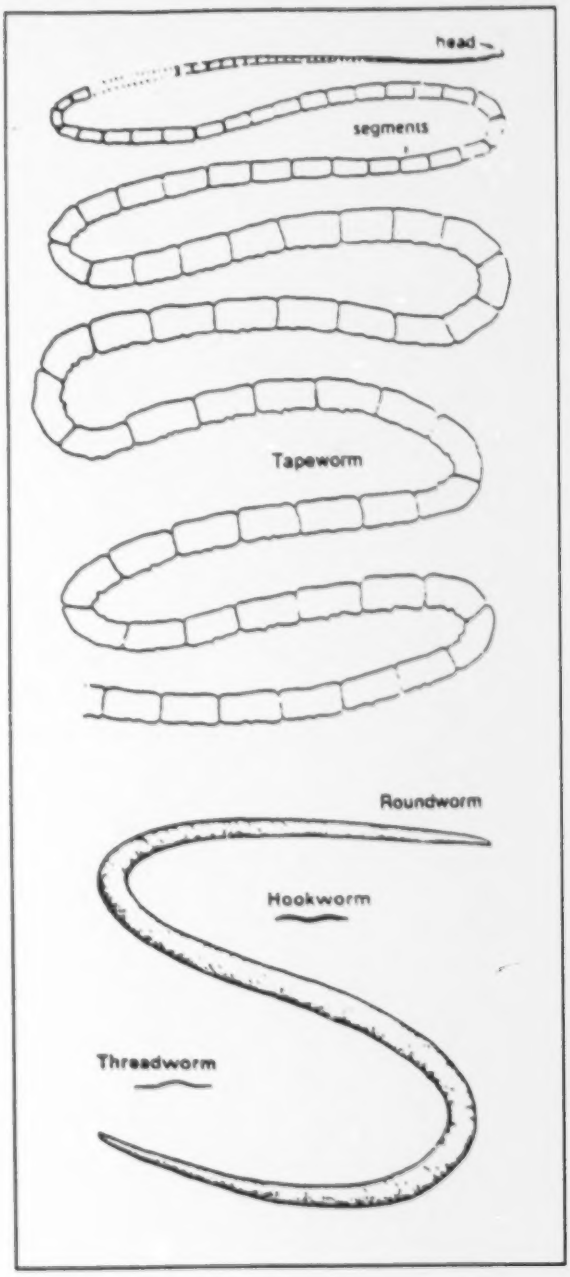
- **Investigate ...** worms, themselves, and their family.

  Pupils can survey their own family. They can think up questions they can ask their parents, e.g.

  - Have I had worms?
  - What kind of worms did I have?
  - How old was I?
  - How was I treated?
  - Did all the family receive treatment?

  Children can develop this survey themselves, e.g. for brothers, sisters and other relatives. This needs to be done with sensitivity and respect.

- **Graph ...** the results. They can use pie charts and bar graphs.



What can we do?

To cure threadworm:
Threadworm can be easily cured if the whole family takes worm medicine.

To prevent threadworm:
- wash hands and bottoms
- keep clothes and bedclothes clean
- cut fingernails short
- dispose of children's stools away from living and play places.

Roundworm: These worms are pink and long, with pointed ends. They can easily be seen in the stools and sometimes children cough and spit them out. But most of them swim about in the intestines and live there for a long time, laying thousands of eggs. These invisible eggs have hard shells. When the eggs come out of the body in the stools, their hard shell allows them to live in the ground for a long time, especially in damp, shady places. These eggs get into water, flies carry them on their legs, they can be found on fruit and vegetables that are not washed well, and even on our hands. When we swallow them we cannot see them.

Children with roundworm have stomach pains and do not feel hungry. Sometimes they are thin but have a big stomach and they become weak and thin. Too many roundworms can block the intestines by multiplying and forming a big ball. Sometimes roundworm gets into other parts of the body and can cause death.

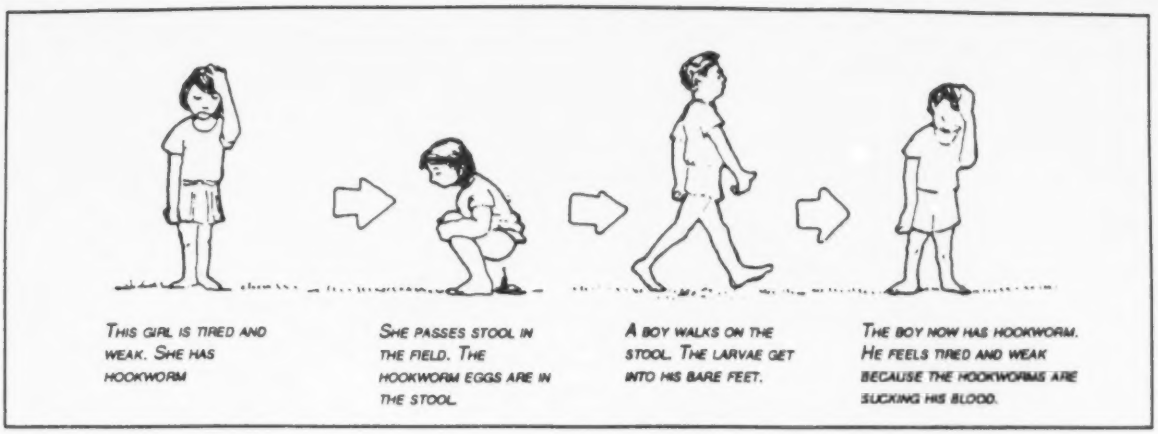
What can we do?

To prevent roundworm, we can:
- wash our hands
- get rid of stools safely
- use the latrine
- kill flies
- use clean water
- observe the rules of good hygiene.

To cure roundworm, the whole family takes medicine.

Hookworm: Hookworm is very dangerous because it cannot be seen or felt when it goes into the body through our skin (feet, hands, bottoms). Once the worms are in our body, they hook onto the intestine and suck blood. Their millions of eggs pass out in the stools. Then they hatch into larvae (young worms) which get into bare feet when we walk on them, or into children s bare bottoms when they sit on the ground.

Hookworms suck children's blood. Children get anaemia (too thin blood), they become weak, tired, ill and can even die. They get other illnesses more easily and do not get well quickly. Sometimes they cannot learn and think well at school and they do badly in their studies. If someone has anaemia, their skin, gums, fingernails and the insides of their eyelids become pale and they are weak and tired.



What can we do?

To prevent hookworm, we can:

- wear shoes
- dispose of stools cleanly and always use a latrine
- make a clean place for small children to play and crawl.

To cure hookworm: If we think children have hookworm they must go the clinic. Ordinary worm medicine is not enough. A doctor or health worker can give other medicine, which is more effective.

Tapeworm: There are many kinds of long, flat tapeworms. The largest come from beef or pork that is not well cooked. Tapeworms have a head and a body which is made up of many short pieces (or segments).

As the tapeworm grows, its end segments become heavy with eggs and break off. These pieces pass out of the body in the stools where they can be seen. When cows and pigs eat, they swallow some of these eggs which then get into their flesh. Then people eat this meat, and the tapeworm eggs with it.

Tapeworm can make us tired and weak, and can be very dangerous, especially for young children.

What can we do?

To prevent tapeworm:
If meat is well cooked the tapeworm is killed before we eat it.
Always use a latrine

To cure tapeworm: Special medicines can cure tapeworms.

REMEMBER: THE HEALTH CENTRE CAN GIVE SIMPLE TREATMENT FOR WORMS. IT IS IMPORTANT TO GET THIS SO THAT CHILDREN AND OTHERS CAN GET WELL AND STOP WORMS FROM SPREADING TO OTHERS.

REMEMBER: ALL INTESTINAL WORMS ARE SPREAD BY BAD SANITATION AND POOR HYGIENE

Community action can help to prevent worms from spreading if everyone cooperates by observing the rules of good hygiene and especially:

- building and using latrines
- getting rid of little children's stools safely and quickly, away from places we sit and eat
- keeping the places where people live and eat clean and free from flies, stools and other dirt
- washing hands before eating and after using the latrine
- keeping food and water safe from flies and dirt
- cooking food well, and storing it safely.

REMEMBER: EVERY PERSON IN THE COMMUNITY MUST HELP. Only ONE person who does not follow the rules SPREADS WORMS to HUNDREDS of other people.

ACTIVITIES

What we learn about worms is no use if we only observe the rules of hygiene at school and forget them at home. If we use the latrine at school and do not help our younger brothers and sisters to use it at home we cannot get rid of worms.

Finding Out

Worms:. Who in the group has worms? How can you tell if a small child has worms? (scratching anus, sleeping badly, restless, tired, bad-tempered, pale, stomach ache, not hungry, presence of worms in the stools) Do people at home have them? Have you seen worms? Where? Do you know people who have worms you can't see? Do your younger brothers and sisters get more than you? Why?

Latrines: Where are there latrines? At home? How many at school? How many for teachers? How many for children? Do you know any public ones? Who looks after them? Make a guide or map to the latrines you know. Which of them have a cover and are kept clean?

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Water. Where do people get their drinking water? Is the source of drinking water clean? Where can they wash their hands before they eat and after they have been to the latrine?

1. ***Latrines — keep clean and free of flies***
2. ***My house — clear any children's stools from around the house***
3. ***Stream — clear snails***
4. ***Well — fence off and keep clean***
5. ***Washstand — wash hands before eating and after using the latrine***
6. ***School — use latrines and washstand***
7. ***Kitchen — kill flies, cook meat well, wash fruits and vegetables before eating***
8. ***Market — keep clean***

Discuss

How can children get rid of worms?

Draw a worm cycle, for a tapeworm, a roundworm or a hookworm. Write a story called 'My Life as a Fly' or 'My Life as a Worm'. Write songs about worms and flies.

Draw and discuss a health map which shows dangerous places where worms are spread. Show how flies spread germs and worms. Watch the flies and see where they go. Then draw a plan of their journey on the map.

In maths, work out how many eggs one female roundworm can produce in three months if she lays 200,000 eggs every day.

Taking Action

Begin by observing the rules of hygiene (Activity Sheet 3.3 — Children's Stools and Hygiene). Keep clean, and use a latrine. Keep water supplies, and water for drinking and cooking clean and safe (Activity Sheet 3.4 - Clean, Safe Water). Protect cooked food from flies, and wash raw fruit and vegetables before eating.

Start at school: How can you keep it clean, and make it free of worms? You can kill flies, improve and cover latrines, provide water for washing hands, keep the compound clear of dirt.

Make sure the family at home understands about worms. Teach younger children to use latrines (Activity Sheet 3.3 Children s Stools and Hygiene), make latrine covers, keep a water-saving tin to wash hands (with soap if possible) after using the latrine. Learn to make this tin. Make fly swats, and keep flies away from food and latrines.

Keep a clean, safe place where small babies can play (Activity Sheet 1.5, A Place to Play).

Make posters and picture stories about:

- taking children to the clinic for treatment,
- keeping the places we sit, walk and eat clean and free from stools and flies
- how worms get into our bodies
- the different kinds of worms.

Hang these posters up at school, at the market, at home.

Give puppet shows, mimes, songs, dances, at home and on open days at school.

Report to teachers, parents, health workers when there are flies, worms, dirt, or problems with latrines.

FOLLOW UP

How many children can remember the main idea three months later? How many have been able to use the information, at school, at home? What did they do?

Are there more latrines, latrine covers, children wearing shoes? Who has gone to the health centre for worm treatment?

Have the older children helped the younger ones by getting rid of stools, showing them how to use the latrine, talking about worms with their parents? How else did they help?

Did anything else happen at home or the community after the children started passing the message?

USING THIS SHEET

Health workers can help mothers and older children at the clinic where children are taken for treatment. Youth workers can use youth groups to make surveys and carry out the activities for preventing and treating worms in children.

Teachers can work to make sure that latrines are built at school, and help to spread the knowledge about worms in their daily teaching, at open days, using these activities with children and their families.

Children can do all these things. They can tell people at home and children who do not go to school about them. They can tell older people when they think they or their brothers or sisters have worms.

This sheet should be used together with Children's Stools and Hygiene (Sheet No 3.3), and Clean, Safe Water (Sheet No 3.4).

IMMUNISATION

THE IDEA

Every year, five million children die and five million are disabled from diseases which could have been prevented by immunisation against the germs which cause them. Children can understand the diseases which can be prevented by immunisation, how immunisation works, and the correct immunisation programme for themselves, their friends and their families.

People say, **"Our children are not sick, so why should we take them to the clinic?"**

The answer is, **"Because we want to have them immunised to protect them against some serious diseases."**

Immunisation means making the body strong and well-prepared to fight particular diseases.

Each year, in every village and community, some babies and young children die from diseases like measles and tetanus. Others are disabled for life by diseases like polio. **This can be avoided by immunisation.**

We can look at the diseases which can be prevented by immunisation, and then we can look at how immunisation works.

Diseases That Can Be Prevented by Immunisation

Measles. Pradeep has had a high fever for six days, with red eyes, a runny nose, noisy breathing and a cough, and a rash all over. He has measles and is very ill. If he gets better, he will be weak for a long time and may catch other diseases.

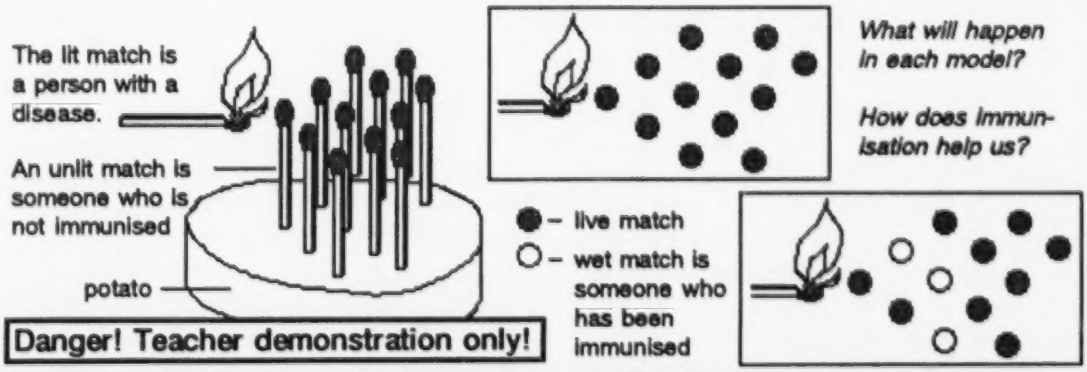
Diphtheria. Rosa breathed in some diphtheria germs which settled in her throat and made it sore. Her neck swelled. Her breathing became noisy and difficult. Then her breathing stopped and she died.

Tuberculosis (TB). Musa's uncle had a cough for a long time and there was blood in his spit. He coughed up the TB germs which Musa and his baby sister breathed. The germs settled in Musa's lungs. He began to cough, lost weight, and became weak. His baby sister died.

ALL OF THESE COULD HAVE BEEN PREVENTED BY IMMUNISATION!

Children do science when they

- **discuss models ...** for the spread of disease, and for stopping the spread by immunisation.



What will happen in each model?

How does immunisation help us?

Danger! Teacher demonstration only!

Tetanus. Joseph cut his foot in his field. Tetanus got in with the dirt. A week later all his muscles became tight so he could hardly breathe. They took him to hospital, but we do not know if they can save him.

When Vimia had her baby, they cut the cord with a dirty knife, and germs got in. A week later the baby became stiff and stopped sucking; he later had convulsions and died.

THIS COULD HAVE BEEN PREVENTED BY IMMUNISATION

Polio. Odongo, Opio and Akello caught polio when there was an epidemic some years ago. They and a lot of other children were ill with it. They were left paralysed and will always be disabled.

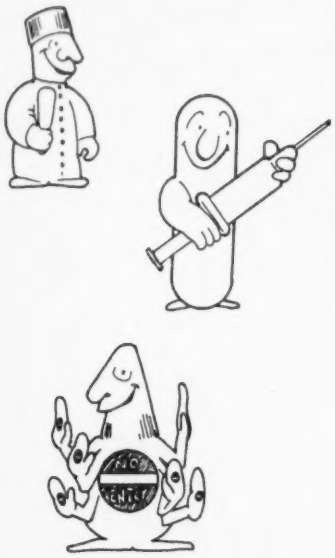
THIS COULD HAVE BEEN PREVENTED BY IMMUNISATION

Whooping Cough. Four-year-old Amin caught whooping cough from his friends and gave it to his sister Fatima and baby Myriam. They have all been coughing, vomiting, losing weight and becoming weak. The baby goes blue with the cough and may die.

THIS COULD HAVE BEEN PREVENTED BY IMMUNISATION

In some countries, immunisation is given against other diseases too, such as meningitis, yellow fever and cholera. Find out from a health worker if your country does, and if so, teach about these as well.

How Does Immunisation Work?



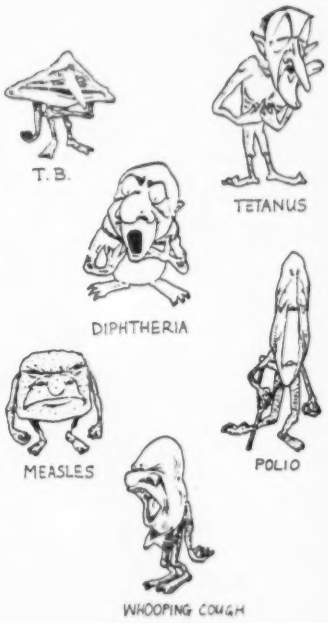
Immunisation builds protection in the body against the germs which cause these diseases. How does it do this?

When we are ill, it is because a tiny germ that can only be seen under a microscope has entered the body. The body protects and defends itself by making special 'soldiers' for killing those particular germs. These soldiers, which are specially armed to fight a certain kind of germ, are called antibodies.

Sometimes, when a disease enters the body:

- the body has not made enough soldiers or antibodies in advance, or
- the antibodies are made too late to prevent or fight the disease.

If the disease is very serious, or if the child is very weak - perhaps has been ill before, or is malnourished - there is a risk that he will die before the body can make enough antibodies to fight the disease.



Immunisation is a way of encouraging the body to make enough of the right kind of antibodies in advance of the disease. Then, when the disease comes, the body is ready to fight it. For diphtheria, tetanus, whooping cough and polio, immunisation must be given at least three times before enough antibodies are produced and protection is complete. For these diseases, it is very important for children to be taken back for their second and third injections at the right times. For some diseases like polio and tetanus, the antibodies made in the body by the immunisation will not last for an entire lifetime, and so we need a second immunisation five or ten years after the first, to remind our body to make more antibodies.

When a child is immunised, the immunisation will sometimes make a small swelling, or make the child feel unwell. This is the body's way of learning to fight the disease.

The Immunisation Programme

Your country has an immunisation programme against these diseases. Make sure that all families with children know about this programme. Immunisation should be given by qualified health workers who are part of this programme. If possible, talk to your health worker to learn about this programme.

What is the right time for immunisation? Programmes change with new and local knowledge. Know your own country's programme.

Immunisation Programme§

Before birth (to be given to the mother)	Tetanus	
As soon as possible after birth	BCG (against TB)	first
	Polio	first
Age 6 weeks	DPT*	first
	Polio	second
Age 10 weeks	DPT	second
	Polio	third
Age 14 weeks	DPT	third
	Polio	fourth
As soon as possible after 9 months	Measles	
Age 5 years	BCG	second

§ Recommended by the World Health Organisation (1985)
* One injection against Diphtheria, Whooping Cough and Tetanus

Remember: Immunisation still helps to prevent disease even if the spaces between the immunisations are longer than they should be. Also remember that even some immunisation is better than none.

IN ORDER TO STAY HEALTHY, WE MUST ALL BE IMMUNISED

ACTIVITIES

Children can find out about the immunisation programme in their community. Where is immunisation given? Are there certain days and hours for immunisation? What sort of injections are being given? (Teachers, youth workers and health workers can help children to find out this important information.)

Children can find out who needs to be immunised. Children can find out what diseases members of their family have had and discuss them in class. Which illnesses have they had? How did it make them feel?

In school, identify any children in the class and in the children's families who have not been immunised. Get children to check with their mothers and report back. If growth charts or other records are used, show the children where immunisation comes on the growth chart. Remind them of the dates for immunisation. Children must keep immunisation cards safe, and always have them when they go to the health centre.

If any young child in the class or group, or any child in their families, has not been immunised, check with health workers to see how it can be done.

Children can keep records. Children and their teachers can support the clinic by keeping records for all the families of the children in the class, or even if possible for all the families in the village.

Children can help in the family. Older children can make a birthday card to take home for a new baby in the family or neighbourhood. They can hang it on the wall as a reminder. The class can help to design the card, so that it shows the right times for the local immunisation programme.

Keep reminding the mother and father to look at the baby's clinic card and the birthday card, to remind them when immunisations are due.

When the time comes, help the family to take the baby to the clinic.

During the day after immunisation, help to look after babies and comfort them if they feel unwell and cry.

Children can help in the community.

They can pass the message. Children can make birthday cards for babies, make posters, and make up songs and dances.

Children can make up plays and puppet and mime shows, such as one about a family where the children are immunised and another where they are not. Or about what happens when someone in the family who is not immunised gets one of the diseases which can be prevented.

Another play might show the unpleasant and crafty Germs who wait around for those who have not been immunised. They include Measles Germ (with red spots), Polio Germ (who limps), Whooping Cough Germ and TB Germ (who cough). Some children can take the part of the Germs; others can be the antibodies.

YOUR IMMUNISATION CARD

HAPPY BIRTHDAY

(WRITE THE BABY'S NAME HERE)

TICK OR COLOUR THE SPACE FOR EACH IMMUNISATION GIVEN

WE HOPE YOU HAVE ALREADY HAD YOUR FIRST TB + POLIO VACCINE	
AT SIX WEEKS OLD YOU NEED DPT + POLIO	
AT 2½ MONTHS OLD YOU NEED DPT + POLIO	
AT 3-4 MONTHS OLD YOU NEED DPT + POLIO	
BEFORE YOU ARE 1 YEAR OLD YOU NEED MEASLES	
WHEN YOU ARE 5 YEARS OLD YOU WILL NEED BCG AGAIN	

They can help in immunisation campaigns. Children can help others to know about immunisation programmes and to prepare, with adults, for the visit of the immunisation team or health worker in the community. They can show their posters and plays, and make sure that everyone in the community knows about the immunisation programme.

FOLLOW UP

Children can discuss among themselves to make sure that they all remember about the immunisation message. Have they understood it properly? Have all the children in the class been properly immunised? What about their brothers and sisters? Their parents?

Children can count how many polio damaged people there are in their age group; how many there are among people who are ten years older; twenty years older. Is there a difference? Why?

Children can try and ask their grandparents what happened before immunisation.

USING THIS SHEET

Teachers, including religious teachers, **youth group leaders** and **community development workers** could introduce these ideas to groups of children, if possible with help from **health workers**. It is important for children really to understand about immunisation if they are to pass on the message and help their families and communities. **It is important for teachers and youth leaders to give the message regularly and not just once.**

This sheet should be used together with Sheet No 6.2 **Caring for Children Who Are Sick.**

SMOKING - THINK FOR YOURSELF

THE IDEA

Children between the ages of 10 and 14 are often under a lot of pressure to start smoking. They notice others smoking, and advertising companies make smoking seem very attractive. To help them decide whether or not to smoke, children need to know much more about the effects of smoking on their bodies, their health, their activities and their family life.

A Smoker's Story

Joseph, aged twelve, lived with his family in a village. One day, his fifteen-year-old brother came back from town, and offered him a cigarette from a new pack. Joseph puffed away. At first, he felt sick, but he did not want his brother to think he was a baby. He finished his first cigarette. Soon he was smoking one cigarette a day. Then two, then five and then ten a day, until he became addicted to cigarettes. He felt sick if he did not have one.

One morning, Joseph woke up with a bad cough which did not get better. So he went to the health clinic. There he saw the health worker. She told him that his cough was caused by his smoking. She knew this because his breath smelled and his teeth were stained yellow. She told him that when he had a wife, she would not like him to smell. She also said that he would have bad teeth if he continued to smoke. He thought to himself, 'I must try to give up smoking.'

Joseph had always been a keen footballer, but after a few months of smoking he noticed that he could not run about the pitch as quickly as he used to without getting out of breath. He was very upset when he was not chosen to play for his team in the big match. As he was no longer in the football team, Joseph met his friends outside the bicycle shop, where they chatted and smoked. Joseph and his friends saw the cigarette advertisements on the side of the shops showing famous sportsmen and women. Unfortunately, there was no one to tell them that advertisements are not always honest. Several more friends joined the group outside the shop.

For a few months, Joseph was satisfied. But he missed the football team and began to visit the sports ground where the team was practising. He longed to play again but he knew that if he wanted his body to be fit enough, he must give up smoking and start training again. He talked to several of his friends outside the shop, and three of them agreed to try to give up smoking. Although it was not easy, two of them, including Joseph, succeeded. Once he had stopped smoking, Joseph began training again and after a while was fit enough to rejoin the team.

Children do science when they

- **Make a model ...** of a smoker, using a plastic bottle with a hole made in it.
- **Observe ...** the effect of smoke in the model (look and smell).

Children need to understand that:

- **Smoking causes disease and poor health**. Those who don't smoke are usually healthier and fitter than those who smoke.
- **Smoking is expensive** and uses money that could be used for food, clothes and other things.
- **Smoking is addictive**: once you start, it's hard to stop.

Children who see that non-smokers are often fitter, healthier and cleaner than smokers can think for themselves about whether or not to smoke.

A Threat to Fitness and Health

Smoking injures people's bodies in many different ways.

It causes disease

Lung/throat/mouth/bladder cancer. Cancer occurs when body cells grow out of control into a lump called a tumour. A cancer is very serious because it prevents the part of the body where it is growing from working properly. It can spread to other parts of the body and cause death. You cannot catch cancer from other people. Cancer is more likely to happen to a smoker than a non-smoker.

Bronchitis. Smoking injures people's lungs, so that they:
- get more coughs and colds;
- are short of breath after exercise;
- cough every day, especially when waking up;
- bring up thick sticky mucous when coughing;
- feel generally unwell.

Heart disease. Smoking makes the heart work harder. It increases the heart rate, because there is less oxygen in the blood when people smoke. That means that children who play sport but smoke do not do as well as if they did not smoke. And when they get older they are more likely to suffer from heart disease.

Smoking is very harmful to babies. If a mother smokes, the chemicals in the cigarette can injure her unborn baby. Babies can be born smaller and weaker, or even die if the mother smokes. Babies and young children can get chest troubles - coughs and wheezes - if their parents smoke.

Smoke from cigarettes hurts even those who don't smoke. It causes eye and throat irritation, coughing and even cancer. This is because non-smokers breathe in the smoke as if they smoked the cigarette themselves. Some people may be so affected by tobacco smoke, especially those with chest trouble, that they find it difficult to breathe.

Cigarettes and matches are dangerous because they cause fires when they are thrown away or dropped carelessly. At home people's lives may be in danger, and in the fields and forests, animals, birds, people and precious crops may be endangered or even destroyed by fires caused by careless smokers. Where else can cigarettes cause fire? (Football stadiums, markets, cinemas, stations, and even in cars, lorries and buses.)

Cigarettes are Poisonous

What actually causes the injuries to smokers' bodies and those around them? Cigarettes give out harmful chemicals:

- *Tar*, a sticky mixture of irritating chemicals and cancer-causing substances collects in the lungs.
- *Nicotine*, a poisonous drug, makes the heart beat faster, and also affects blood vessels and nerves. It is very addictive.
- *Carbon monoxide and other poisonous gases* take the place of oxygen in the blood, which the body needs to stay healthy.

A Costly Habit

- Money is wasted on cigarettes when it could be used to buy more useful things for the family.
- Land which should be used for growing food is used for growing tobacco for cigarettes or for chewing.
- Smokers are ill more often than those who do not smoke, so they are absent from work, and need more medical attention.
- Governments have to spend money trying to stop people from smoking, while cigarette companies spend a lot of money trying to get people to smoke.

Why Do People Smoke?

Why Begin?

Different people smoke for different reasons. For example:

- Sometimes they smoke because they see other people who are important to them (e.g. mother, father, brother, sister or friends) smoking and they want to try it.
- Sometimes they smoke because advertisements on the radio, television or at the cinema, in the newspapers and magazines, and on posters encourage them to buy cigarettes. Also, cigarette companies like to sponsor sports and social events. Advertisements often make smokers seem attractive and exciting, young and happy, rich and successful.

But this is misleading. Smokers are likely to have poorer health and to be less fit. Because they spend more money on cigarettes, they have less to spend on looking good.

Why Carry On?

Once they start smoking, people become addicted to the tobacco. Smoking becomes a habit because it is easy to do, a part of everyday life. They find it difficult to stop and may even feel quite ill if they do. They may have:

- poor sleep;
- bad dreams;
- difficulty in thinking and concentrating;
- depression and anxiety;
- craving for cigarettes.

But this is only temporary. Friends and family can help a person who is trying to stop smoking. Before too long they will feel better and be healthier.

Remember: It is easy to start smoking, but it is difficult to stop. The body gets hungry for cigarettes.

SOMETHING TO THINK ABOUT

In some countries people are getting wise about their health. They are smoking less and less. This means less money for the tobacco companies. So these companies would like to encourage people in *other* countries to smoke more.

There is evidence that more men, women and even children in developing countries are beginning to smoke. The cigarettes they smoke are often even more harmful because they have more tar and nicotine in them.

Don't let the cigarette companies tell you what to do. Make up your own mind. Think for yourself!

ACTIVITIES

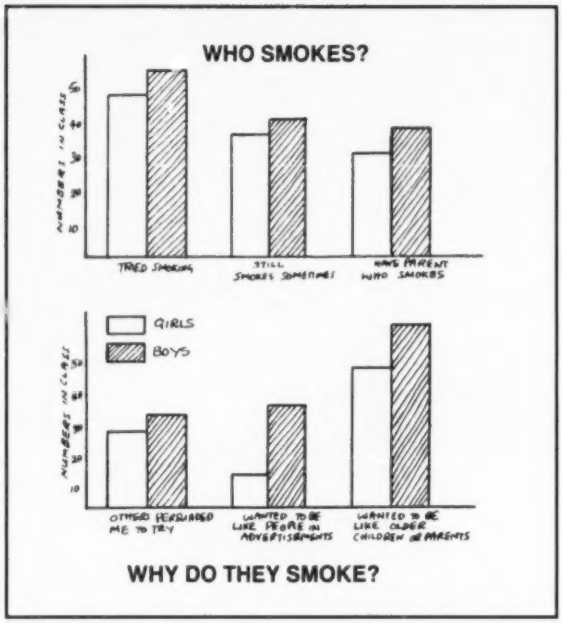
Children can find out.

- *Advertising.* Carry out a survey of billboards, or collect advertisements from newspapers, cinemas and magazines, or on the radio.
  - How often are cigarettes advertised?
  - What do the advertisements stress?
  - How do they make you feel?
  - What do the advertisements NOT tell you?
- *Smoking and the family.* Find out how many children in the group have parents or brothers or sisters who smoke.

Talk about how smoking affects the family.

What is it like to live with a smoker?

Can the children illustrate these or other effects on posters, and perhaps take them home to put up on the wall?



Does the fact that someone in the family smokes make it more likely that the child will begin to smoke?

- *People who smoke.* Carry out a survey of people who smoke including the children themselves, as well as people outside the group:
  - what age did they start?
  - why did they start to smoke?
  - why do they smoke now?
  - is it easy or hard for people to stop smoking?
  - have they tried to stop?
  - what effects have they noticed on their health?
  - would they encourage young people to smoke?

Include non-smokers as well, and find out why and when they decided not to smoke, or to give up smoking.

Invite someone who has given up smoking to come and talk to the group.

Make a report and/or illustrate the findings with a chart or table.

- *Cost of smoking.* Find out the cost of one cigarette or a packet of cigarettes. Work out the cost of the number of cigarettes smoked each day, each week, each month, and for a whole year. Work out how much rice or flour or meal could have been bought with this money.
- *Poison in cigarettes.* Demonstrate the harmful substances contained in a cigarette. An adult smoker can take a white

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cloth and blow tobacco smoke through it. A brown stain will appear on the cloth. This is tar which collects in the lungs of smokers.

Children can discuss

- How people decide whether or not to smoke.
- Find out and discuss what children think about smoking:
  - Where, why, when did you decide to smoke or not to smoke?
  - What disadvantages do you think there are in smoking?
  - Do parents and friends help you to decide whether or not to smoke? What do they say?
  - Is there anything you can do to help someone decide not to smoke? Or to stop smoking? What?
- Why do you think people smoke? Ask people who smoke and others who do not smoke. Compare and discuss their answers. Make a list of all the reasons suggested. Does the list give you ideas about:
  - How to help people who are trying to stop smoking?
  - How to encourage people to stop smoking?
  - How to reduce pressure on others to start smoking?
- Organise a debate. Possible topics include:
  - Smoking should be forbidden in all public places, including buses and trains.
  - Government should double the price of cigarettes.
- Pretend you are different people in the community; for example:
  - a parent
  - a doctor
  - a government minister
  - a teacher
  - an advertising company executive
  - a farmer
  - a teenager

  and argue what action you would take about:

  - smoking generally
  - smoking and pregnancy
  - increasing taxes on cigarettes
  - banning smoking in public places
  - decreasing the amount of land where tobacco is grown
  - controlling cigarette advertising
  - more and more children starting to smoke
  - informing others about the dangers of smoking
  - the danger caused by cigarette smoke to non-smokers.

Children can pass the message

- Especially to other classes or groups of children. They can make use of:
  - reports for other children and for the family
  - pictures/posters for public display or to take home
  - creative writing, like a story or poem
  - talks from smokers, advertisers, marketers, for example
  - plays
  - music/songs.
- Children can display posters or sing songs in places where others will see and hear the message: in schools, health centres, around the village and market and at home.
- Have a story and poetry competition.
- Make plays, and act them out for the group. For example:

  Three little pigs live in a house made of bamboo. A hungry wolf who smokes, wants to eat them. So he tries to blow the house down. But the wolf can't take a big breath and can't blow the house down. His coughing can be heard all around the village.

  Act out the story of Joseph at the beginning of this activity sheet. Make it longer and show how he was able to help other smoking friends and his own family.

  Five children arrange to meet at their favourite meeting place. One of them produces some cigarettes and offers them to the others. One of them says, 'No thank you. I don't smoke'. The others ask, 'Why not?' What does he say? The others try to persuade him. How does he answer them? Make up the play as you go along, discussing and arguing.

FOLLOW-UP

Can the children tell why smoking is dangerous?

Have any of the children in the group stopped smoking? What about brothers and sisters, mothers and fathers, their friends?

Have the figures on the bar chart, showing the number of smokers in the group and their parents, changed - for better or for worse?

Have children found any specially good way of encouraging people to give up smoking, or of helping those who are trying to stop?

USING THIS SHEET

Teachers can include many of these activities in health, maths, science and physical education lessons. Teachers themselves might set a good example for children by not smoking in or near the school, if at all.

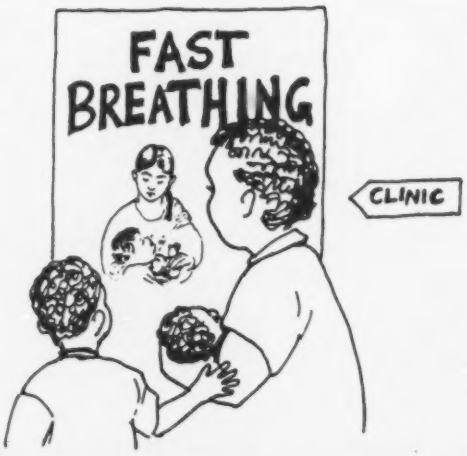
Youth and community leaders can also set a good example for children. They can also help children in groups to carry out public information campaigns in the community, and help the children to locate the best places to pass the message.

Children themselves have an important role to play in putting pressure on others to stop smoking, or even better, not to begin smoking.

COUGHS, COLDS, PNEUMONIA (A.R.I.)

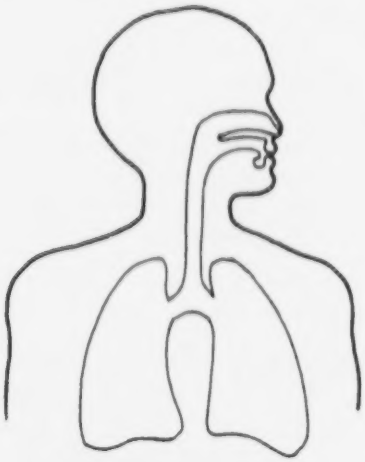
THE IDEA

Everyone gets coughs and colds. Most coughs and colds get better without special medicine. But sometimes colds turn to pneumonia. Four million children die of pneumonia every year. The clearest sign of pneumonia that everyone can learn to recognise is QUICK BREATHING. Pneumonia needs immediate treatment with special medicine given only by a doctor or health worker. Breastfeeding, good food, a smoke-free home and immunisation against whooping cough and measles can help prevent pneumonia.



What is A.R.I.?

Coughs, colds and pneumonia are all Acute Respiratory Infections (A.R.I.).



Respiratory Tract

The respiratory tract is that part of the body into which the air we breathe enters. The air reaches the nose and throat, and goes through the windpipe to the lungs.

Infections are illnesses caused by germs (viruses and bacteria). Acute infections happen suddenly and last a short time.

Everyone Gets Coughs and Colds

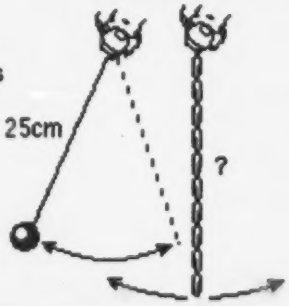
Throughout the world people get coughs and colds. Young children get more than older children, between three and eight colds every year. In colds, the infection is only in the nose and throat. The signs and symptoms of a cold are:

- a runny nose;
- a blocked nose;
- a cough;
- sometimes a sore throat;
- sometimes children feel ill and tired and do not want to eat.

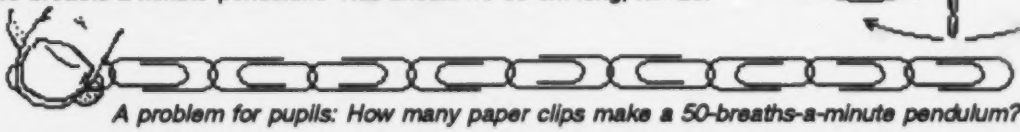
Children do science when they

- **measure time ...** using a pendulum made of thread or paper clips

A 1-second pendulum: *A 25 cm long pendulum made from thread and a weight goes from one side to the other and back 60 times per minute*



Pupils can feel what it is like to breathe as fast as this. They can make a 50-breaths-a-minute pendulum. This should be 36 cm long, not 25.



A problem for pupils: How many paper clips make a 50-breaths-a-minute pendulum?

Coughs and colds are caused by viruses. They are made worse by smoke. Tobacco smoke and cooking smoke make a cold more likely to turn to pneumonia.

Most Coughs and Colds Do Not Need Special Medicine

Special antibiotic medicine does not help to cure colds. Babies and children will usually get better in a few days. We *can* help them if we:

- keep them comfortable - keep them warm if they are cold, or cool if they are hot;
- give them plenty of soothing drinks;
- encourage them to eat, by giving small quantities of food often;
- clean their noses (especially babies before feeds);
- keep the air round the child clean and smoke-free.

Pneumonia

Pneumonia can:

- start on its own;
- follow from a cold;
- follow from measles or whooping cough.

All children can get pneumonia but babies under one year are more likely to get it than older children.

In developing countries pneumonia is usually caused by bacteria. *Therefore special antibiotic medicine can help save lives.*

Recognising Pneumonia

The clearest and surest sign of pneumonia is **quick breathing.** A healthy baby, lying still and not crying, takes about 30 breaths a minute. But a baby with pneumonia, lying quietly, takes more than 50, sometimes 70 or 80, breaths a minute. *Quick breathing, more than 50 breaths a minute, usually means pneumonia.*

How to Count Breaths

We all breathe quickly sometimes, especially when we run, cry or move about a lot. This quick breathing is not pneumonia.

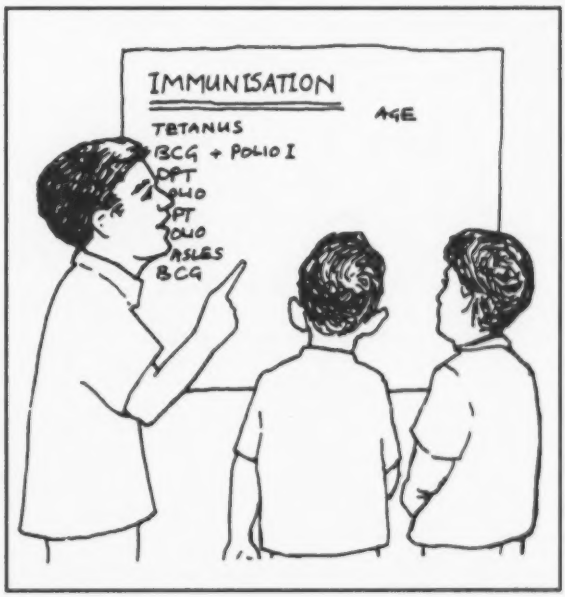
We must not count a child's breaths when he has been restless, crying or struggling. Count the breaths of a child who is sleeping or resting quietly. Watch the child's chest without disturbing it.

Count the number of breathing movements for one minute. Fifty breaths or more can mean pneumonia.

Mothers usually know when their babies are breathing too fast even without a watch. If you have no watch look carefully and decide whether the breathing is too quick.

What to Do

If you are sure the breathing is too quick (50 or more) or if you think it may be, the child must be seen immediately by a doctor or health worker. Special antibiotic medicine can cure pneumonia if started early



and given by a doctor or health worker. Their instructions must be followed carefully and correctly.

Can Pneumonia Be Prevented?

Children who are well-fed (*see* Activity Sheet No 2.1, **Feeding Young Children - Healthy Food**) are less likely to get pneumonia. Babies who are breastfed are less likely to get pneumonia.

Measles and whooping cough cause pneumonia; both can be prevented by immunisation (*see* Activity Sheet No 6.4, **Immunisation**).

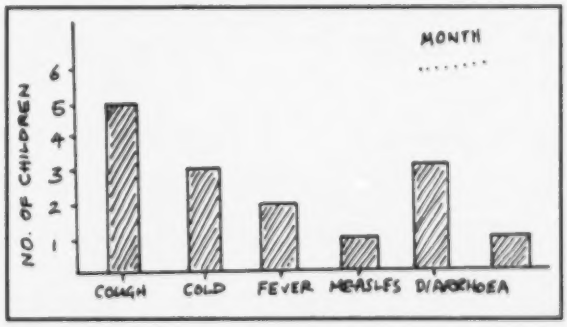
Children in homes where people smoke are more likely to get pneumonia.

ACTIVITIES

Finding Out

The children can interview each other and find out:

- How many of them were ill in the last six months?
- How many had coughs and/or colds?
- What were the symptoms? What did they feel like?
- Did the colds get better soon? Or did they get worse and lead to fever? How many children developed fever? How many did not?



- What did they do to make themselves better?
- What helped to make them better?

Share the information and write a survey report. Make charts showing the information and display it.

Extend the survey to the children's families, to other families in the area. This time, also find out:

- how many people (if any) had pneumonia;
- for how long?
- did it get better?
- what helped?

Compare this information with that on coughs and colds. Did the children notice anything interesting about their information, for example:

- Who had most colds in the community - babies or old people?
- Who had pneumonia? During which months?
- Was the medicine made at home or did it come from the doctor or health worker?
- Was there anything else that they noticed?

If a child or an adult remembers having pneumonia, they can talk to the children about it. (How did it start? How did they feel? What did they do to get better?)

Learning the Signs

(1) The children can test each other to make sure that they know the signs or symptoms of pneumonia.

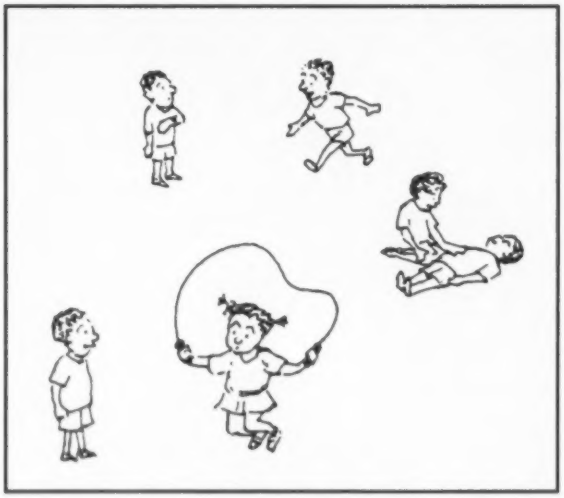
I have a cough.
I have a runny nose.
I have fever.

But your breathing is normal. You do not have pneumonia.

They can ask each other questions:

Question: I am lying quietly. I have a runny nose. I am breathing very quickly, about 50 breaths a minute. Do I have pneumonia?

Answer: You could have. You should see a health worker as soon as soon as possible.



Question: I have a runny nose. I have a cough. I have fever. Do I have pneumonia?

Answer: No! Your breathing is normal so you do not have pneumonia.

(2) If the children have a watch or clock, they can learn to recognise the quick breathing (50 breaths each minute) which is a sign of pneumonia. Working in pairs, start by counting each other's breaths for one minute. Write down the number of breaths. Then one child does one of the activities in List A below, the other an activity from List B. Let them count each other's breaths after each activity, then change over and continue. Each time write down the result.

If they do not have a watch, a third child can act as timekeeper, counting up to 100 at a steady speed, or walking up and down at the same pace. Children can compare the rate of breathing for different activities even if they cannot measure accurately.

A	B
Sitting quietly	Running on the spot very fast
Reading	Skipping 30 times
Standing still	Jumping as high as possible 30 times
Humming	Digging
Writing	Lifting something heavy
Counting	

By comparing different rates of breathing, children will soon begin to understand what is normal, what is a little fast, and what is very fast (the danger sign).

(3) The children can make three pendulums from string which does not stretch and stones. With the stones attached, the strings should be two metres, one metre and 35 centimetres long. They can then swing them to see how fast they go from side to side. They should notice that the shortest pendulum takes the least time to swing from side to side and that the longest pendulum takes the most time to swing from side to side. In fact the longest pendulum swings from

one side to the other and returns to its original position in the same length of time as a normal adult takes to breath in and out again. A normal baby breathes in and out again in the same time as the middle pendulum takes to swing from one side to the other and return to its original position. If the baby is breathing at the same rate as the short pendulum, it is breathing very fast and should see a health worker straight away.

Preventing Pneumonia

Children can find out how many children in the school or community:

- have been immunised;
- need immunisation;
- need to complete the immunisation process.

Remember: Children can make cards to remind parents about immunisation (*see* Sheet No 6.4, **Immunisation**).

Children can make posters which show how pneumonia can be prevented. They can help each other or their families can help. If families help, they may also learn. Display the posters in class, the children's homes, public places.

They can discuss what foods will help prevent pneumonia. Can they make up a menu for the week which contains such food? Is it expensive to get the right kind of food?

They can keep a list of all they eat at home and see if the right food is included and how frequently (*see* the sheets on Feeding Young Children). They can help their parents to plan the meals well.

They can draw a plan of their houses. With the help of their parents, can they identify the smokiest areas? (Cooking area? Fire corner?) Can they identify the least smoky area? (Near the door? a window? in a cross-current?) How can they make sure that babies are kept away from smoke?

How can they clear the house of smoke quickly?

Passing the Message

Children can:

- display their posters showing the signs of pneumonia and colds at parent days, at home, or in public places like the market and clinic;
- teach their families the signs of pneumonia;
- find two other people in the neighbourhood to whom they can teach the signs;
- make up a story or play about someone who knew the signs of pneumonia and helped to save a life;
- make up a play using the following characters:
  - the patient (a child with a cold which becomes pneumonia);
  - an anxious family;
  - someone who knows the signs;
  - a health worker.

If the child takes more than 50 breaths in one minute, take him to the health centre immediately.

- make a puppet show to tell the story of someone who had pneumonia, and share it with other children and families. The play should ask the following questions:
  - What started it (cough, cold, no immunisation, measles)?
  - What were the signs?
  - What did the patient feel?
  - How was the pneumonia cured?
  - How could it have been prevented?
- make up a song with the chorus:

  Do not worry, do not fret,
  This is not pneumonia yet.

  The final chorus might be:

  Pneumonia is setting in.
  Ask the doctor for medicine.

- teach the song to families, other children, other people in the community.

FOLLOW-UP

Find out:

- how many children and families remember the signs of pneumonia;
- if they remember what to do when a child gets pneumonia;
- if they can tell how to prevent pneumonia;
- how many have taken action as a result of what they learned.

USING THIS SHEET

Teachers can include these activities in science and health lessons, and can later follow-up to make sure that children have been properly immunised. They may be able to get advice and help from health workers and community leaders, so that the children really know the signs of pneumonia, what treatment is best, and the importance of immunisation.

Children can help by passing the message to friends and families. They can carry out projects with the help of adults which will help to reduce the danger of pneumonia to their families and the community.

MALARIA

THE IDEA

Malaria is a killer disease. One million children die of it every year. The disease leaves many others weak and unable to work or study properly. Malaria is spread by Anopheles mosquitoes and affects people in many countries. It is even coming back to countries from which it has been driven out. There are important government programmes to control malaria and we all need to work together to support these and prevent malaria from spreading.

Children can also help by preventing mosquitoes from breeding and biting people, and by knowing what to do when someone has malaria.

A Story

Joseph had a sister called Flora. She was ten-months-old. One day she had a very high fever and was shivering. She was very ill. Joseph and his mother took Flora to see the nurse. The nurse said Flora had malaria. She had been bitten by mosquitoes.

Joseph did not understand. He had been bitten but he had not caught malaria. The nurse said that only some mosquitoes gave children malaria.

The nurse gave Flora's mother medicine and told her exactly how much to give and when. The medicine was bitter so it was not easy to get Flora to take it. But the nurse said it was very important that Flora should finish all the medicine.

So Joseph and his mother gave Flora the medicine. They kept her cool. They gave her drinks. Flora was better. She did not like the medicine but Joseph and his mother remembered what the nurse had said and so they gave Flora the medicine for two more days. Now Flora is well again, but she always sleeps under a net to stop the mosquitoes biting her at night.

Malaria: Some Important Facts

What causes us to become ill? The germ which causes malaria is called Plasmodium and it is carried by the female Anopheles mosquito. Other mosquitoes do not carry malaria, but they are a nuisance and may carry other diseases.

Female Anopheles (head down)

Other Mosquito (parallel to surface)

Anopheles mosquitoes can pick up the Plasmodium germ by biting people who have malaria. The germ develops inside the mosquitoes and then they can pass it on to another person.

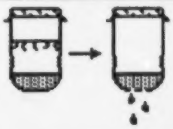
Top removed from a plastic bottle

Children do science when they

Observe ... larvae growing in water next to air. *(What should we do about places where water collects, e.g. cans, leaves?)*

Observe ... larvae dying when oil is put on the water.
Infer that ... oil stops larvae breathing air. *(Oil does not poison them. It suffocates them. How can we kill larvae?)*

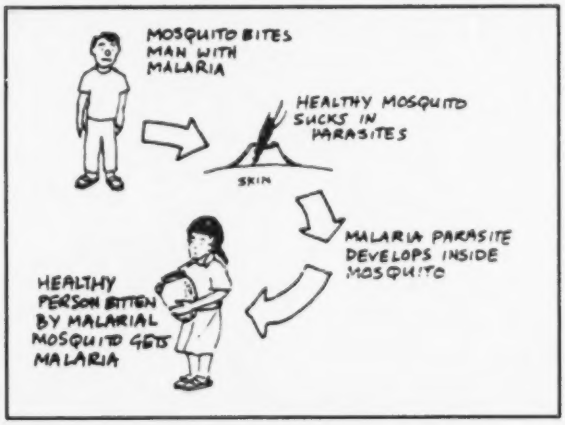
Observe ... larvae dying when a hole is made in the bottom of the plastic bottle and the water runs away.
Infer that ... larvae need water to stay alive. *(What should we do about wet ditches where mosquitoes live?)*



When the female Anopheles mosquito bites a person, the malaria germ enters the person's blood. It travels to the liver and then back into the blood. This takes about 12 days. Then the person begins to feel unwell and gets fever, often with sweating, shivering, headache and diarrhoea. This fever passes but keeps coming back and may get worse unless it is treated with the correct medicine. It is very dangerous for young children.

Health workers can test for malaria. They take some blood from the sick person, spread it on a glass slide, and look at it through a microscope. If there are Plasmodium germs in the blood, the health worker will be able to see them.

The more bites you have, the more chance there is that one of them will be by a female Anopheles mosquito which is carrying the Plasmodium germ.



The Life of the Anopheles Mosquito

Female Anopheles mosquitoes lay their eggs in still water, such as puddles, ditches and ponds. After the rainy season, there are many more mosquito breeding places and therefore more malaria. Other mosquitoes breed in places like latrines, cesspits and even water pots. The Anopheles mosquitoes don't usually breed in these places.

Mosquito eggs are small and black and float on the water. They hatch into larvae which grow quickly. The larvae of the Anopheles mosquito float parallel to the surface of the water. The larvae of other mosquitoes hang at an angle from the surface of the water.

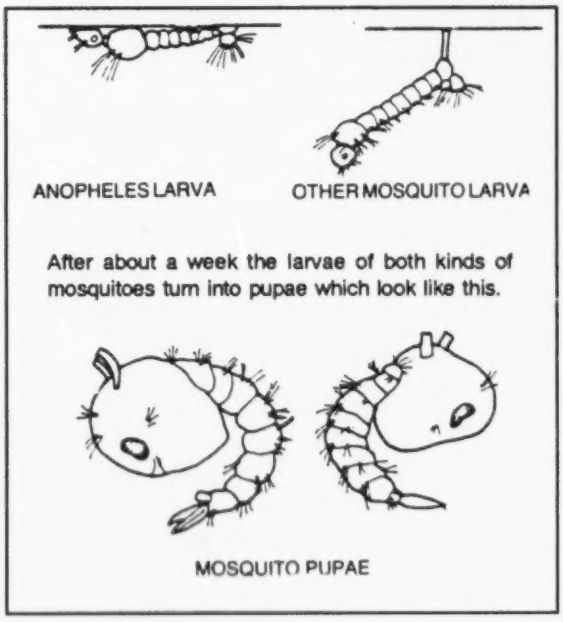
After another day or two the pupa becomes a mosquito which is ready to fly away.

The adult Anopheles mosquito hides in cool dark places during the day. The female bites during the night and sucks up blood to mature her eggs.

How We Can Prevent Malaria

To prevent malaria we must stop Anopheles mosquitoes from biting people.

Keeping Mosquitoes Away. If possible, the windows, doors or other openings in a house should be screened, so that mosquitoes can't get into the house. The best way to prevent mosquitoes from biting at night is by sleeping under nets.



These nets must be:

- put over the bed before dark;
- tucked in well after you get into bed; and
- kept in good repair by sewing up any holes or tears.

Remember:

- Mosquitoes can bite through the net if you sleep close to it.
- Mosquitoes go on biting until it is light. Stay under the net until it gets light.

In some countries nets are now being treated with a chemical called permethrin. This helps to keep the mosquitoes away and can kill them.

In the evening, at night and until the first light of day, as long as the mosquitoes are active, we can wear clothes which cover the arms and legs to protect them from mosquito bites. In places where there are no nets or screens, a blanket or thick cloth can help protect the body.

Mosquitoes can also be driven away by putting a repellent on skin or clothes (especially around the ankles), by using mosquito coils or even smoke from grass or leaves.

Killing Mosquitoes. We can also kill mosquitoes when they get into the house. Regular government spraying programmes are very helpful and everyone should cooperate with these. When the walls of the house are sprayed, the insecticide should be allowed to remain on the walls. Mosquitoes resting on the walls will then die.

Preventing Mosquitoes from Breeding. We can also try to stop Anopheles mosquitoes from breeding by:

- filling up puddles of still water around the house with earth and stones;
- putting small fish which eat larvae into ditches and ponds;
- putting oil on the surface of small ponds to stop the larvae from breathing.

Other mosquitoes can be prevented from breeding by carefully covering water pots and containers with cloth or by putting oil or special chemicals into latrines.

If a Child Has Malaria

A child with malaria needs to be treated or the disease may get worse and the child could even die.

The usual medicine for treating malaria is called chloroquine. (The medicine may have different names like Malariaquin, Nivaquine or Resoquin.) There are other medicines which may be available and which may work better than chloroquine in some places.

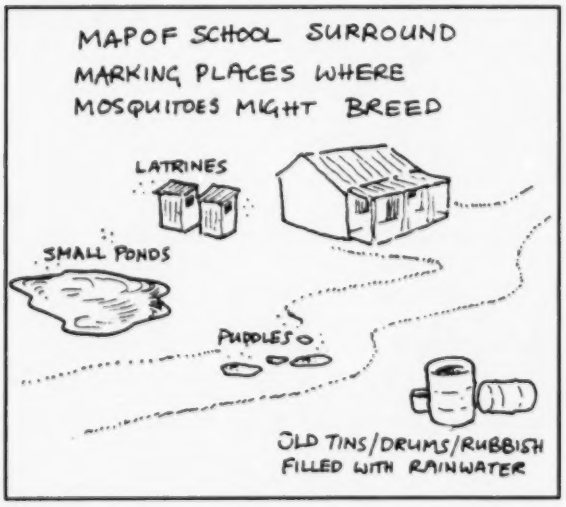
It is important to take the full recommended course of the medicine to make sure that all the Plasmodium germs are killed. Since the medicine tastes bitter, children sometimes want to stop taking it once they begin to feel better, but before they have finished the course. They must be helped to take the full course.

NORMAL DOSES OF CHLOROQUINE TO TREAT MALARIA*

AGES	FIRST DAY: FIRST DOSE	FIRST DAY: ABOUT 6 HOURS LATER	SECOND DAY	THIRD DAY
LESS THAN 1 YEAR OLD	1/2	1/2	1/4	1/4
1-3 YEARS OLD	1	3/4	1/2	1/2
4-6 YEARS OLD	2	1	1/2	1/2
7-11 YEARS OLD	2	1	1	1
SMALL 12-15 YEARS OLD	3	1 1/2	1	1
LARGE 12-15 YEARS OLD AND ADULTS	4	2	2	2

* Recommended number of tablets containing 300mg chloroquine base

A child with fever caused by malaria needs to be kept cool but not cold. Sponge the child's body with cool water.



Sometimes the child will be shivering. But putting too many clothes or blankets on a child with a high fever or at the shivering stage of an attack of malaria is dangerous. Medicines like paracetamol can reduce the temperature.

When children sweat, they lose liquid. They should be given plenty to drink. As soon as they can eat again, they should be given food to build up their strength (*see* Sheet No 6.2, **Caring for Children Who Are Sick**).

ACTIVITIES

Finding Out

Where is Malaria Common?
Some government programmes have managed to control malaria in some places, but in others malaria is spreading. Find out where malaria is most common:

- in the world;
- in your country;
- in your district.

Ask teachers, health workers or local malaria control officers. Is it spreading or is it getting less? Are fewer people getting ill, or more? Why? Draw maps to show where people are getting sick because of malaria.

At school, find out from other children in the group:

- how many children or others in their family have had malaria in the last year;
- how often did they have it;
- in which months did they fall ill.

Use this information to keep records, or make simple graphs to show:

- the months of the year in which people get malaria (mostly in the rainy season);
- the months in the year when it rained and there were many puddles;
- the ages of those with malaria;
- who went for treatment.

Children can plan and keep such records throughout the school year.

Discuss how such information could be useful to children, their families and the health workers.

Where Do Mosquitoes Breed?
In the rainy season, make a map of the area of the school, and mark on it all the places where mosquitoes might breed. Then check all those places, to see if there are larvae in them. Are they Anopheles larvae? How do you know? Can you get rid of the water in which the mosquitoes are breeding? How?

What Do People Know About Malaria?
Using the information in this activity sheet, write down the important facts about malaria. With the help of their teachers children can then make up a simple questionnaire to find out what families believe about malaria, and what they do about it. What can children do once they have collected this information?

Observing the Mosquitoes

In the Environment. Find out where mosquitoes are most plentiful. Which kind of mosquitoes are they? Where are larvae found? What kind of larvae are they?

In the Classroom. Collect larvae. Put them in a covered jar or other container with water, grass and some mud in it. Observe them. You should put a little bread or flour on the water for them to feed on.

Children can draw and write about what they see.

Preventing Malaria

Children can help prevent malaria in many different ways:

- Make sure that nets are properly used. It is most important to cover sleeping places of very young children. Older children can make sure that younger ones stay under the nets until first light and that nets are well tucked in.
- Check for holes and tears in nets regularly and sew them up.
- Kill mosquitoes in the house.
- When the spray teams come, help carry food and other things out of the house.
- Destroy breeding places. Fill puddles with earth and stones. Put oil on shallow ponds (old engine oil from cars and lorries works well).
- Make and fit covers for water pots and containers. This helps to prevent other mosquitoes from breeding there.

Teachers, children, parents and health workers need to work together to prevent malaria. Find out what others are doing.

Helping Children Who Are Sick

When young children get malaria they need help quickly, or they may die. Older children can watch for the signs of malaria and tell adults when the young ones need treatment.

Children with malaria feel very ill. Older children can help to comfort them, keep them cool, and give them drinks (*see* Sheet No 6.2, **Caring for Children Who Are Sick**).

It is very important that children take the right course of medicine at the right time. (Children's doses vary according to the age and size of the child.) After the first dose they may feel better, but all the germs are not yet killed. Older children must help others to understand how important it is to finish the medicine.

Passing the Message

Children can help spread the important messages about preventing and treating malaria to parents and other adults, as well as to other children. They can do this in many ways.

Make up a play or dance. The children can mime the Plasmodium germs and the medicine. The medicine (like policemen) come in several times. The first time they catch most of the malaria germs but some germs hide. It takes three more times before all the germs are caught.

Children can act, mime or dance:

- the life cycle of a mosquito;
- careless and careful families and villages (some can act the part of clever mosquitoes);
- germs and medicine;

... and many more topics.

Make posters. Posters by the children can show:

- how malaria is spread;
- how it can be controlled (particularly in 'danger periods' like after it rains);
- that pregnant women need to visit the health clinic;
- why children need to take the full dose of medicine.

Be sure to put the posters where they can be seen by many people.

Write stories. Children can write and illustrate stories like 'Joseph and Flora' and share them with others. Some titles might be:

- Mrs Mosquito and her Friends;
- The Day the Spray Team Came to Our Village;
- Careless Moses (who didn't take the full course of medicine).

Sing Songs. Children can make up 'Prevent Malaria' songs and teach them to families, friends and to other children.

FOLLOW UP

Children can test themselves and others on the facts about malaria.

They can keep records and help the school to do so. Look at the charts after some months. Have cases of malaria increased or fallen? Are some months worse than others? Why? Are more people using nets and protecting their neighbourhood? What have the children done to help at home? at school? in the neighbourhood? Let them describe their experiences.

Children can and must continue to be aware of the dangers from mosquitoes and continue to take action such as filling puddles. This is especially important after the rains.

USING THIS SHEET

This sheet can be used by **health workers and youth group leaders.** There are also many ways it can be used in **schools.** It can help teachers to plan activities in nearly every subject in school. For example:

- In maths, make graphs of malaria spread;
- In social studies, make maps and do surveys (where is malaria found? where do mosquitoes breed?);
- In science, observe the life cycle of the mosquito;
- In language, write stories and plays about malaria;
- In cultural subjects, make up songs and dances, draw pictures.

REMEMBER: MALARIA IS A KILLER DISEASE
MOSQUITOES ARE QUICK AND CLEVER
DON'T GET BITTEN
AVOID MALARIA

MEDICINES - WHEN AND HOW THEY CAN HELP US

THE IDEA

Everyone has taken medicine at some time. Medicines help us in many ways. But often medicines are not necessary and we can get well without them. One problem is that people often expect the health worker to prescribe lots of medicines and to give them injections when they are sick. In many cases it is enough to get plenty of rest, plenty to drink and good food to eat to help the body fight off the disease and get better.

When we take medicine we must be careful where we get it from and how we take it. If children learn the correct facts about medicines and how to use them safely they can help to improve the health practices of their family.

A Story

Sara's baby had a bad cold. She took him to the health worker and asked for an injection. The health worker told Sara that the baby did not need an injection and that he would get better with rest, good food and lots to drink. But Sara did not believe her. She went to a man in the market who gave the baby an injection and asked for a lot of money. Four days later Sara's baby had a high fever and a hot, red sore where he had been injected, because the man had used a dirty needle. Sara was very worried and went again to the health centre. She now believed the health worker's advice.

Medicines may be given in different ways:

- in tablets (or capsules)
- in liquid or drops
- in ointment
- by injection

How are medicines used?

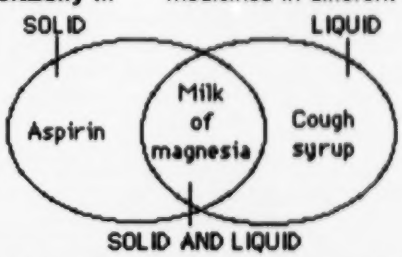
1. *Medicines which prevent diseases.* Some medicines and vaccines protect us from certain diseases. Babies must be immunised against six dangerous diseases.

2. *Medicines which cure diseases.* Some medicines cure certain diseases. There are different medicines for different diseases. Diseases must be treated as soon as possible before they become too serious. When a child is very ill (e.g. very high fever; breathing very quickly; vomiting; blood in his stools or severe diarrhoea), he should be taken at once to a trained health worker who will know which medicine to give. Some medicines cure in a short time, others take a very long time (e.g. the medicine for tuberculosis takes at least six months to cure.)

3. *Medicines which help us feel better but do not cure.* Many diseases or health problems, such as colds, flu, or most cases of diarrhoea cannot be cured by medicines.

Children do science when they

- **Classify ...** medicines in different ways, e.g.



(Children can die if they eat too many aspirins.)

	Dangerous	Not dangerous
Taken by mouth	Aspirin	?
Put on the skin	?	Vaseline .....

You can use a collection of medicines, modern and traditional. Children should read the labels and look at the medicine. They can classify them in their own way, or as shown. Warn children of the dangers.

Sometimes we take Paracetamol or other medicines when we have a fever or headache or stomach ache. This helps the pain to go, but does not cure the disease which causes the pain. After a few hours the pain will come back. It will not go away until our body has cured the disease.

4. *Medicines which control diseases:*
There are some diseases which cannot be cured but can be kept under control by taking medicine regularly. For example, a person with Asthma, Diabetes or some kinds of heart disease needs to take medicine regularly to keep as well as possible. Some people need to take medicine all their lives.

When looking after sick people, give them:

- plenty of clean water and other drinks.
- good food. Young children should eat a small amount many times a day.
- the right amount of medicine at the right time.

Home remedies and traditional cures

Many home remedies have great value, some have less. Some may even be dangerous or harmful. Home remedies, like modern medicine, must be used carefully.

Home remedies that help
For many diseases home remedies work as well as or even better than modern medicines. They are often cheaper and in some cases safer. For example, teas made from herbs and plants can help for coughs, colds and indigestion. Older people may know which plants are useful for certain complaints in their area. Children can make sure that a person with diarrhoea drinks plenty of liquids. (See Activity Sheet 6.1 on **Diarrhoea**.)

Home remedies that harm
Good home cures must not be confused with unhygienic practices which may harm people. e.g. animal dung may contain dangerous germs and must never be applied to a wound or to the umbilicus of a newborn baby.

We should only use home remedies if we are sure that they are safe and we know how to use them. If someone is seriously ill and has a high fever, it is safer to treat their disease with modern medicines on the advice of a health worker.

Misunderstandings about medicines

Many people believe that if they are ill they must take some medicine. We should realise that our bodies will recover from most diseases whether we take medicines or not. When people go to the health worker, they expect to be given some medicine and are disappointed if they get none. *Medicines are expensive and cost money which could be used for buying good food.* It is also dangerous to over-use medicines when they are not necessary.

Many people believe that it is better to take medicine by injection rather than by mouth. Most medicines work just as well, or better, when taken by mouth. Injections should only be given for particular diseases and for immunisation. *Receiving an injection from an untrained person can be very dangerous.* If needles are not cleaned and not sterilised (by being put in boiling water), they can spread diseases, including AIDS.

It is dangerous to take the wrong medicine or too much medicine. It is wrong to believe that a larger dose of medicine will make a person get well quicker. It could even kill. It is also wrong to take too little and not to finish all the medicine.

The people who make medicines and beauty products often try to make us buy them through attractive, misleading advertisements. e.g. An advertisement for a vitamin tonic might say : *"This tonic will make you strong and clever."* We know which foods have the vitamins and minerals we need to eat to grow well and strong. (See Activity Sheet 2.1 on healthy food.) Therefore it is much more sensible to spend money to buy these foods than to buy an expensive bottle of tonic which may be useless.

Where do we get our medicines?

We must be careful where we get our medicines. Sometimes medicines are kept too long or left in the heat, in the sunlight or damp places. In these cases they may become useless and sometimes could be dangerous. The label on the medicines should have a date. If that date has passed, the medicine may be bad.

The dangers of medicines for young children

Young children often swallow medicines thinking they are sweets or nice drinks. Some common medicines can easily kill young children if they take too much. We must prevent this by keeping medicines out of young children's reach.

Children need different treatment from adults. They get different illnesses and need different doses (amounts) of medicines.

Some common medicines like Aspirin can harm babies. Babies and pregnant women should only take medicines on the advice of a health worker.

Safe use of medicines

Children can help themselves and their families to use medicines safely and correctly. Here are some simple rules:

- Only use a medicine when it is needed. Often rest, good food and lots to drink are enough to help a person get better.
- Listen carefully to instructions from the health staff or read the label. Help others to understand these instructions.
- Make sure that all medicine containers have instruction labels.
- Take the medicine if possible with food at the right times and in the right amounts.
- Always finish the full course of medicine even if you feel better.
- Don't share medicines with someone else.
- Keep all medicine in a cool place out of the reach of young children.
- Only adults and responsible older children should give medicines to children. Young children should never give medicines to other children.

ACTIVITIES

Finding out

The children can find out :

- ☆ What are the most common local diseases?
- ☆ What medicines or cures are given for them?
- ☆ Where can people get these medicines or cures?
- ☆ Do people spend a lot of money on them?
- ☆ Are these medicines necessary?
- ☆ Do some people make their own cures?
- ☆ What kind of cures? Are they helpful or harmful?
- ☆ When people are sick, who helps and advises them?
- ☆ Do people expect to be given medicines or injections when they go to the health worker?
- ☆ What medicines are kept at home? Are they stored out of the reach of small children?
- ☆ How much is a bottle of "tonic" (medicine which is supposed to make us strong)? Compare the price of one bottle of tonic with an orange, a kilo of green leaves, or other local nutritious foods. Which is the best use of money?

The children can visit the health centre to find out more about the use of medicines.

Discussing

- The health worker can discuss with the children about the different kinds of medicines, when they are necessary and when they are not and how we can use them safely.
- The health worker can bring some empty medicine bottles with instructions written on the labels and the children can practice reading and understanding the instructions.
- Children can discuss together with teachers, parents and health workers how they can promote the safe use of medicines and decide on action which they can take to help their families and neighbours.

Taking action

Older children can help in many different ways:

- Help the parents when a small child does not like taking medicine by amusing the small child, telling her stories, persuading her, singing to her, rewarding her when she takes it.

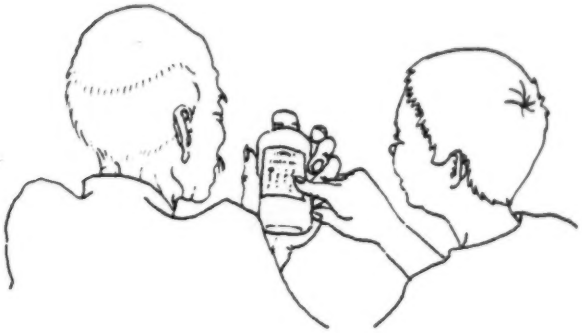
- Think of ways to give tablets to young children. One way is to mix the tablets with a little sweet liquid. In preparing this follow these steps:

1. *Wash your hands.*
2. *Follow the health worker's instructions and take the right amount of tablet.*
3. *Put the tablet in a cup and crush it into powder with a spoon.*
4. *Mix the powdered tablet with a little clean water (no more than 2 spoonfuls), milk, sugar, porridge or other food to make it easier for the child to take.*
5. *Give the mixture to the child with the spoon or from the cup. It may be necessary to hold down the child's hands.*
6. *If the child spits out the mixture, give one more dose perhaps trying a different method.*

The children can discuss this idea with their parents and help them next time a small child needs to take tablets.

- Help feed sick children in small quantities frequently and keep them clean. Remember: Always wash your hands after looking after a sick person.
- Check that a sick child has taken the medicine regularly by making a chart and ticking off the times when the child has taken the medicine and making sure the child finishes the course.
- Make drinks like herbal teas and the Special Drink (ORS) and give it slowly and frequently to children when they have diarrhoea.

- Make a label with instructions for taking medicine. Include: the dose; how to take it; when to take it; how often to take it; for how many days.
- Read medicine labels for people who cannot read and remind them to take their medicines.



Passing on the Message

The children can help to spread these messages to their family and community in many ways:

- **Make up a play or a puppet show**. For example, acting the story of a false doctor who comes to the village with bottles full of different coloured water. He makes a long speech which the people believe. They buy his medicines and he goes away with a lot of money. No one gets better. He comes back next year, but this time the people chase him away.
- **Draw posters** to show the rules about safe use of medicines. e.g.
  - *Sick people need good food and plenty to drink.*
  - *Medicines should be kept out of the reach of young children.*
- **Make up songs** with these health messages and teach them to their friends.
- **Write stories** like the one about Sara and her baby. Other stories could be about:
  - How the family learned that Grandmother's herbal drink and Grandfather's oranges were the best treatment for little Abdullah's cold.
  - How Mimi helped her brother take his medicine safely.
  - How foolish Arthur took all his medicine at once and nearly died.
- **Find an advertisement** for some kind of medicine and discuss it with their friends. What does it say? What does the picture tell us? Should we believe it? Why or why not?
- **Organise a school open day** with safe use of medicines as the theme. This could include drama and puppet shows, stories and poster exhibitions.

Follow Up

- Children can **make up quizzes** to test each other on the facts about safe use of medicine.
- They can **keep records** about the diseases in their families and the treatment which was given. How many times have they taken medicine? Who advised this? Have they helped anyone to take medicine correctly? Have they treated cases of coughs, colds and diarrhoea with medicine or with plenty of liquids and good food? What happened? How many injections have been given other than for immunisation? The children can keep these records over a few months and compare their findings.
- They can find out whether people still expect always to be given medicine or injections when they go to the health worker?

USING THIS SHEET

There are many ways in which **older children** can help their families use medicines safely. **Health workers** can help older children understand these messages and plan together how they can pass on these messages at the clinic and at community meetings. **Teachers** can do the activities with children in different lessons at school and in the community. **Youth group leaders**, including **Scout and Guide leaders**, can involve children and young people. They can develop an achievement badge for which children need to demonstrate how they have helped others to use medicines safely and wisely.

This sheet can be used with **Caring for Children with Diarrhoea** (Sheet 6.1), **Caring for Children Who Are Sick** (Sheet 6.2) and **Coughs, Colds and Pneumonia** (Sheet 6.7).

AIDS

THE IDEA

Every country has AIDS. In some countries the number of cases recognised so far are very few. In others the disease is widely spread and many people are dying. In all countries everybody, including children and young people, must learn the facts about AIDS. Children everywhere in the next ten years of their lives will be in danger of catching the AIDS virus. In countries where many young adults are infected, the future of the society depends on their children's knowledge, attitudes and practice.

This sheet gives explicit facts about how the AIDS virus is caught and how it can be prevented. It also looks at people's attitudes and practices concerning AIDS. It aims to develop in children, their teachers and their families an openness to discuss these sensitive issues, a confidence to take decisions for themselves, and a sense of caring for people with AIDS.

WHAT DOES 'AIDS' MEAN?

A **Acquired**
means 'to get'.
AIDS is acquired (or got) from other people who have the AIDS virus.

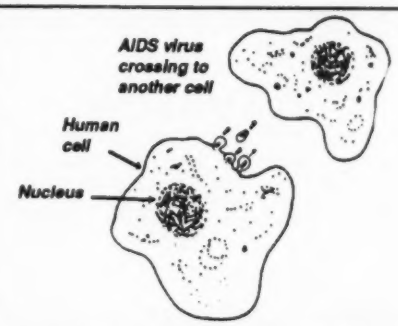
I **Immune**
means 'protected'.
The body is normally immune (or protected) against many diseases.

D **Deficiency**
means 'a lack of'.
With AIDS, the body has a deficiency (or lack) of immunity against many diseases.

S **Syndrome**
means 'a group of different signs of a disease'.
When people have AIDS they have a syndrome or many different signs of disease.

WHAT IS AIDS?

AIDS is a disease which attacks the body's protective system. The body is unable to protect itself properly from other diseases such as diarrhoea, TB, coughs and sores in the mouth. With AIDS, these diseases make people very sick and they may even die.

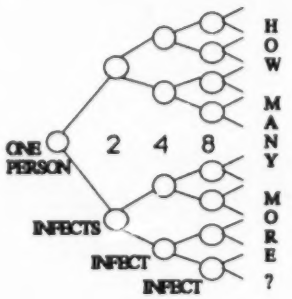


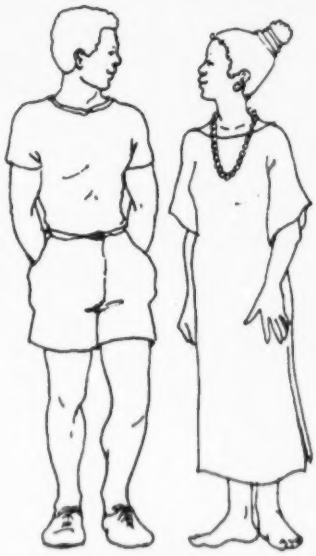
Here the AIDS virus, which is much smaller than a human cell, is leaving one cell before entering and infecting another cell. (Drawing from a microscope picture.)

AIDS may take 2-10 years to develop but the infected person can pass on the virus even if they show no signs of disease. AIDS is caused by a virus (Human Immuno-deficiency Virus [HIV] which we call 'the AIDS virus' in this sheet).

Children do science when they

- **Understand** how the AIDS virus attacks the protective system of the body.
- **Realise** the consequences of this and thus how deadly the AIDS virus is.
- **Predict** the numbers that will be infected with the virus if people do not protect themselves.





The AIDS virus can be passed from any infected to any healthy person by UNPROTECTED sexual intercourse, EVEN ON ONE OCCASION.

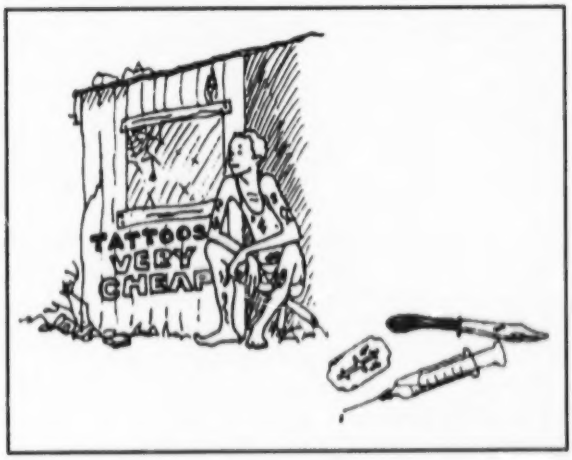
Although in some cases no symptoms are noted for up to 10 years, any infected person remains able to infect others during this time.

Any time after 2 years from infection, AIDS disease can appear and the consequences of common infections, such as diarrhoea, cough, etc., can become more serious and lead to death.

HOW IS AIDS SPREAD?

There are two main ways of getting AIDS. The AIDS virus is transmitted:

- By sexual intercourse (vaginal or anal) with any infected person.
- Blood-to-blood, if someone receives blood containing the AIDS virus from another person:
  - By sharing needles or using unsterilised needles (for injections);
  - by transfusion in a hospital or clinic where the blood has not been properly tested;
  - by using unsterilised instruments that cut the skin (for circumcision, scarification, tattooing, ear-piercing, etc);
- Babies may get the AIDS virus from their mother's blood during pregnancy.



AIDS IS NOT SPREAD BY

- Shaking hands
- Touching
- Breathing
- Kissing
- Mosquitoes and bed bugs
- Caring for those with AIDS
- Cutlery and cooking utensils
- Bedding and clothing
- Toilets and latrines

MOTHERS WITH AIDS SHOULD CONTINUE BREASTFEEDING. BREASTMILK IS STILL THE BEST FOOD FOR BABIES.

PREVENTING THE SPREAD OF THE AIDS VIRUS

The AIDS virus must be prevented from passing between one person and another. It is impossible to tell by looking at someone whether they carry the AIDS virus. Therefore it is very important to protect oneself against catching the virus.

HOW CAN THE AIDS VIRUS BE PREVENTED FROM SPREADING BY SEX?

- By staying with one's sexual partner. The more partners people have, the greater the risk for both of catching the AIDS virus.
- By having safe sex. Kissing, cuddling, touching are safe sex. Penetration by the penis is not.
- By using a condom always. Condoms, if used properly, will do much to protect people from AIDS and other sexually transmitted diseases.
- By drinking less alcohol. Alcohol causes people to lose their judgement about safe sex. Drugs such as marijuana, hashish, cocaine, heroin, etc. can do the same thing.
- By seeking early treatment for sores or unusual discharge from the penis or vagina. People with these sores or discharge are more likely to catch and spread the AIDS virus.

PEOPLE HAVE LIVED IN THE SAME HOUSE AS SOMEONE WITH THE AIDS VIRUS FOR MORE THAN 10 YEARS WITHOUT GETTING AIDS.

HOW CAN THE AIDS VIRUS BE PREVENTED FROM SPREADING BY BLOOD?

- By ensuring that needles, syringes and cutting instruments are thoroughly washed after use and sterilised by heat or chemicals. In national immunisation programmes, health workers have been specially trained in giving injections safely.
- By asking for medicines which can be given by mouth instead of by injection.
- By avoiding contact with other people's blood. When giving first aid, it is important to cover cuts and sores and wash hands well afterwards.
- By reducing the number of blood transfusions. Because blood can carry many diseases, doctors now choose to give fewer blood transfusions.

WHAT CHILDREN CAN DO

AIDS worldwide is a new problem and requires changes in behaviour everywhere. Governments can make some changes but families, communities and schools play an important part.

School children are the future community and must learn to be responsible for others as well as themselves. Guided by school teachers, health workers and community leaders, children can learn how to protect their family, their partners and themselves against AIDS. Children and young people can make decisions about their own behaviour and thereby offer safer patterns of sexual behaviour for the community. For example, in Zambia there are over 600 'Anti-AIDS Clubs' organised by students in schools throughout the country. The main aim of these clubs is to give information on how AIDS is spread and how to avoid it.

Here is part of a letter from a club member to the 'Anti-AIDS Project' in Lusaka which initiated the clubs:

> *"I received the things you sent and I was very, very glad. I've signed on the membership card and I've kept the promises which I must promise to follow as a member of the Anti-AIDS club. I've got questions for you to help me ....."*

CARING FOR PEOPLE WITH AIDS

We all care for each other, in our families and communities. Sick people, small children, old people and orphans need our care. When a person has AIDS, they may feel lonely and frightened. We need to show that we care for them.

People with AIDS need food, support, medical care, physical help and particularly family and friends who will accept them and listen to them. They can be encouraged to live an active life wherever they are. We can help them to lead a healthier life by encouraging them to eat well, smoke less and drink less alcohol.

We cannot catch the AIDS virus by caring for someone who is sick with AIDS. We must remember:

- to protect the person with AIDS from infections;
- to protect ourselves and others from the AIDS virus.

We do this by following the usual hygiene principles:

- Covering open wounds on our hands;
- Washing hands before and after caring for the sick person;
- Washing hands before handling food;
- Keeping the sick person and surroundings clean.

ACTIVITIES FOR SCHOOL AND YOUTH GROUPS

All teachers, not just the health education teacher, have a responsibility to include teaching on AIDS in their lessons. There are also many opportunities for teaching about AIDS on other occasions where children and young people gather together - in clubs, religious meetings, youth and scout/guide groups. The adults leading these sessions can choose the appropriate activities. (In the following examples the word 'teacher' can apply to all adults working with children.)

WHAT EVERY CHILD SHOULD KNOW

Schools should develop a policy that every child should leave school knowing these essential facts. Health workers and youth group leaders can make a similar commitment to pass on this vital knowledge.

WHAT IS AIDS?

- AIDS is an infection. AIDS makes people unable to protect themselves against many kinds of diseases, such as diarrhoea, TB, cough. Due to AIDS, these diseases can make people become very sick and die.

HOW IS THE AIDS VIRUS SPREAD?

The AIDS virus is spread from person to person:

- By sexual intercourse with a person carrying the AIDS virus;
- By blood containing the AIDS virus getting from one person's body to another by blood transfusions or by needles and sharp instruments;
- From an infected, pregnant mother to her unborn child.

THE AIDS VIRUS IS NOT SPREAD BY

- Insect bites, touching, and caring for people with the AIDS virus.

WHEN AND WHERE TO DISCUSS ABOUT AIDS

- In health clubs or special anti-AIDS clubs, in which the children learn about how AIDS is spread and make a commitment to protect themselves and teach others how to prevent AIDS.
- Sometimes it is easier to talk about these sensitive issues in single sex groups. The groups of girls or boys can discuss issues about AIDS, share their concerns openly, and support each other to have confidence in the decisions they need to make. It is easier if the adult involved is also of the same sex.

GETTING THE FACTS RIGHT

Children can:

- Play a 'true/false' game. The teacher writes down true or false statements about AIDS on separate pieces of paper, e.g.: 'You can catch the AIDS virus from mosquitoes' (false); 'You can't catch the AIDS virus by shaking hands' (true). On the floor mark three areas - 'TRUE', 'FALSE' and 'DON'T KNOW'. Each child takes one statement, puts it on one of the three areas and explains the reason for their choice. Anyone else can challenge the decision.
- Write quiz questions about AIDS and discuss the answers in pairs.

FINDING OUT ACTIVITIES

Children can:

- Where possible, find out from newspapers or government health departments the number of AIDS cases in the country. Work out the percentage of the total population this figure represents.
- Visit a local health centre. Health workers can talk about why they give injections and demonstrate how needles and syringes are sterilised.

DISCUSSION AND ROLE PLAY ABOUT AVOIDING AIDS

Children can:

- Imagine how AIDS might affect their lives. They can shut their eyes and imagine their lives in two years' time. The teacher can ask questions like: 'Who will you be living with?'; 'Who will your friends be?'; 'How will you show your love and friendship?'; 'Might you try drugs, alcohol or smoking?'; 'How might AIDS enter your lives or the lives of your families and friends?' The children can then imagine their lives in 10 years' time and answer the same questions. Finally they can imagine that they are parents and have children aged 13. What advice would they give them?
- Make a role play about different married couples and how they treat each other. Which are the happiest marriages?
- Discuss situations when it is sometimes difficult to say 'No' and list the reasons. In pairs, children can role play different situations, imagine how people might try to persuade them to do something and how they could say, 'No' in a way which is polite but firm, e.g. when asked:
  - to have a cigarette;
  - to go somewhere with a stranger;
  - to go out for the evening.
- Find out what guidance their religious books give on sexual practices.

DISCUSSION AND ROLE PLAY ABOUT ATTITUDES TO PEOPLE WHO HAVE AIDS

Children can:

- Collect newspaper cuttings concerning AIDS and discuss the attitudes the articles suggest.
- Write poems expressing their feelings about AIDS and its effect upon their own or other people's lives.

CHILDREN IN ROLE PLAYING GAMES

- Use pictures, e.g. of someone caring for a friend with AIDS, to help them to imagine how they would feel in the role of one person in the picture. They can ask questions about what events led to the scene shown and what might happen in the future.

- Create short plays, for example about caring at home for a person with AIDS. They can first act the play themselves, then each make a simple puppet for their character and perform the play with puppets to the rest of the school or the community.

- Collect and discuss stories from religious books of people caring for the sick.

- Fill in the details of a story, for example about an imaginary school pupil thought to have AIDS. The children divide into groups representing, in this example, the pupil, other pupils, teachers and parents. Each group separately considers: 'What do I feel?', 'What are the main effects on me?', and 'What do I want to happen?'. After 15 minutes the groups reassemble and share their discussions.

- Listen to the following stories:

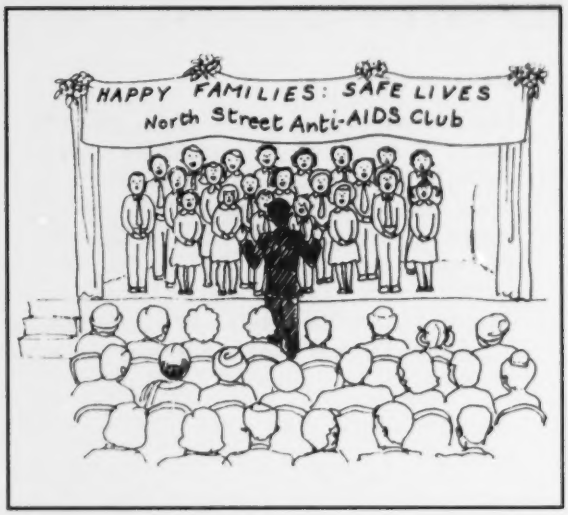
> *'A young woman returns to her village from a neighbouring city. As she walks across the square people shout at her "AIDS! AIDS!" Her stepfather insists that she gets an AIDS test before she lives in the family home. The test is positive.'*

> *'A group of politicians see a video showing a person dying of AIDS and make a policy that everyone should be tested and those carrying the virus should be locked up.'*

> *'The colleagues of a woman whose husband has AIDS refuse to work with her. She is sacked.'*

Then try to answer these questions:

- What do you think about these situations?
- Why do people react in these ways?
- Will these reactions help to control the spread of AIDS?
- What would you do if you were any of the characters in these stories?



PASSING ON THE MESSAGE

Children can:

- make up and perform songs, plays and puppet shows about AIDS;

- design and make posters to display in class and on open days;

- join in the promotion of sports for better health of people with AIDS.

FOLLOW-UP

Teachers can:

- ask children different questions to find out if they know:
  - what spreads AIDS;
  - what does not spread AIDS.

- ask children to write stories:
  - about people catching the AIDS virus;
  - about caring for people with AIDS.

  Then look at the stories. What do they tell us about children's **knowledge** and about their **attitudes?**

- ask children to find out how many local schools or youth groups have clubs and activities which look at AIDS. What do they do? Have the children joined them?

- find out if children have:
  - taken part in anti-AIDS campaigns;
  - helped anyone with AIDS;
  - warned other children about risks of AIDS.

SOME USEFUL BOOKS ON SCIENCE AND HEALTH EDUCATION

Carlile J and Martin J. *Toys for Fun - A Book of Toys for Pre-School Children.* London: Macmillan, 1988.

Gibbs W and Mutunga P. *Health into Maths.* Harlow: Longman, 1991.

Hawes H. *Another Path to Learning.* (A book describing the Child-to-Child approach). Hamburg: Unesco, 1988.

Werner D and Bower B. *Helping Health Workers Learn.* California: The Hesperian foundation, 1982.

Werner D. *Where There is No Doctor.* London: Macmillan, 1979.

Young B and Durston S. *Primary Health Education.* Harlow: Longman, 1979.

Young B. *Teaching Primary Science.* Harlow: Longman, 1987.

Child-to-Child Readers (Graded story-books with a Health Science message):

Good Food
Accidents
Dirty Water
Not Just a Cold (Recognising pneumonia)
A Simple Cure (Oral rehydration)
Teaching Thomas (Helping children develop)
Down with Fever
I Can Do It Too (Helping disabled children)
Flies
Diseases Defeated (Immunisation)
Deadly Habits (Smoking, drinking, drugs, risk of AIDS)

For further information on Child-to-Child, please contact:

The Child-to-Child Trust
Institute of Education
University of London
20 Bedford Way
London
WC1H 0AL
England